New Hampshire DOT
Department of Transportation

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

November 7, 2016

Gino Infascelli
Wetlands Bureau
NH Department of Environmental Services
29 Hazen Drive
Concord, NH 03301

Re: Bedford, 13953, X-A-000(143)
Amendment Submittal - NHDES Permit #2016-02893

Mr. Infascelli:

As discussed with the Natural Resource Agencies on October 19, 2016 (minutes attached), the project impacts to the streams were clarified and the appropriate mitigation for the proposed stream impacts throughout the project were assessed. In accordance with the plan of action discussed during the meeting, the following determinations were made on the project stream impacts.

1. The Tributary to Riddle Brook (Wetland #13) - Approximately 21 linear feet of the existing stone apron is being put back where it currently exists, this is a repair of an existing structure and mitigation is not required (Station 123+00R).

2. The Tributary to Riddle Brook (Wetland #14) - Approximately 155 linear feet of the existing man-made stone lined channel will be filled in and a stone-lined ditch re-created to the north of the existing channel. Mitigation will consist of planting live stakes 5 feet up from the ditch line on the roadway side of Red Osier Dogwood and Sand Bar Willow. These will be planted alternating species in groups of 5 in two rows, 5 feet on-center along the south slope of the new channel to provide for re-vegetation along the channel (Station 123+50L to 125+00L).

3. At Wetland #36 on Meetinghouse Road - It was determined that there is no intermittent stream located at the culvert outlet at Station 19+90L and therefore only wetland impacts will be calculated in this area.

4. The Tributary to Bowman Brook (Wetland # 54) - Approximately 518 linear feet of the channel will be impacted due to the widening of NH 101. A new stone-lined channel will be constructed to the south along the proposed roadway slope. Mitigation along the roadside will consist of live stakes 5 feet up from the ditch line of Silky Dogwood and Speckled Alder planted alternating species in groups of 5 in two rows, 5 feet on-center of the new channel. Mitigation along the wetland side will consist of planting live stakes of Silky Dogwood and Speckled Alder planted in a single row in groups of 5 alternating species, 5 feet on-center to provide for the re-vegetation along the new channel (Station 186+30R to 191+00R).

5. The Tributary to Bowman Brook (Wetland #57) - The impacts were revised to correct errors noted in the quantification of the impacts (Station 193+00R).

6. The Tributary to Bowman Brook (Wetland # 58) - Approximately 50 linear feet of the existing stone apron is being put back where it currently exists, this is a repair of an existing structure and mitigation is not required (Station 200+10R). Additionally, the impacts were revised to correct errors noted in the quantification of the impacts.

Additionally, the DOT proposes that the Bank impacts to Riddle Brook (Wetland #7) at Station116+10L to 116+50L (Impact 7C, 41 linear feet), and the Tributary to Riddle Brook (Wetland #3) at Stations

110+20R to 114+00R (Impact 3A, 375 linear feet) and at Stations 114+70R to 116+50R (Impact 3B, 169 linear feet) are self-mitigating as the impacts, though permanent, will consist of reshaping the existing grassed roadway slopes and will not impact any shrubs or trees located adjacent to the channel of Riddle Brook nor to the Tributary to Riddle Brook. The new slopes will be stabilized and re-seeded with standard slope seeds.

Additional mitigation will be provided through an In-Lieu fee to the NHDES Aquatic Resource Mitigation (ARM) Fund of $775,335.57 for Wetlands and $101,446.56 for Streams impacts, for a total In-Lieu fee payment of **$876,782.13** into the ARM fund.

Attached are revised Wetland Plans dated November 3, 2016 showing the revised impacts and that include the revised Wetland Impact Summary Table, Item 650.2 - Planting Proposal, and the revised Aquatic Resource Mitigation (ARM) Fund calculator form for the wetland and stream impacts.

In summary, the Revised impacts of the project are:

- **Permanent** impacts to **Wetlands** consisting of **153,267 square feet** (used in ARM fund Wetland Impact Calculator).
- **Permanent** impacts to **Streams** consisting of **6,379 square feet.**
- **Permanent** impacts to **Banks** consisting of **19,489 square feet.**
- **Temporary** impacts to **Wetlands** and **Streams** consisting of **56,415 square feet**.

- **Permanent** linear impacts to **Perennial Streams** channels of **774 linear feet** (80 linear feet of channel used in ARM fund Stream Impact Calculator).
- **Temporary** linear impacts to **Perennial Streams** channels of **149 linear feet**.

- **Permanent** linear impacts to **Banks** of **2,046 linear feet** (334 linear feet of bank used in ARM fund Stream Impact Calculator.
- **Temporary** linear impacts to **Banks** of **164 linear feet.**

The amended plans dated November 3, 2016 have been posted on the Departments' website and can be accessed via the following link: http://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/wetland-applications.htm.

The lead people to contact for this project are Victoria Chase, Project Manager (vchase@dot.nh.gov) or Marc Laurin, Senior Environment Manager, Bureau of Environment (271-3226 or mlaurin@dot.nh.gov).

If and when this application amendment meets with the approval of the NHDES, please send the permit directly to Matt Urban, Wetlands Program Manager, Bureau of Environment

Sincerely,

Matt Urban
Wetland Program Manager
NHDOT Bureau of Environment
(603) 271-7969

MRU:MGL:mgl
Enclosures
cc: Bureau of Environment (Original)
Lori Sommer, NHDES Wetlands Bureau, w/attachments
Ted Diers, NHDES Watershed Bureau, w/attachments
Michael Hicks, USACOE, w/attachments
Beth Evarts, Bedford Con. Comm., w/attachments
Victoria Chase, Project Manager
Kevin Nyhan, Bureau of Environment

s:\environment\projects\bedford\13953\wetlands\nhwb permit application\amendment\wetland permit amendment.docx

2016 VALUES

TOWN	Equalized Value per Acre
ACWORTH	1,510
ALBANY	800
ALEXANDRIA	2,373
ALLENSTOWN	5,874
ALSTEAD	2,211
ALTON	17,462
AMHERST	28,408
ANDOVER	3,565
ANTRIM	3,245
ASHLAND	10,784
ATKINSON	35977
AUBURN	18,641
BARNSTEAD	6,141
BARRINGTON	10,286
BARTLETT	4,937
BATH	1,592
BEAN'S GRANT	380
BEAN'S PURCHASE	380
BEDFORD	35,977
BELMONT	10,881
BENNINGTON	3,345
BENTON	380
BERLIN	720
BETHLEHEM	916
BOSCAWEN	4,587
BOW	17,421
BRADFORD	3,147
BRENTWOOD	16,545
BRIDGEWATER	12,396
BRISTOL	9,928
BROOKFIELD	2,213
BROOKLINE	14,979
CAMBRIDGE	380
CAMPTON	3,521
CANAAN	3,594
CANDIA	8,052
CANTERBURY	3,365
CARROLL	2,382
CENTER HARBOR	22,597
CHANDLER'S PURCH	380
CHARLESTOWN	2,012
CHATHAM	476

DES AQUATIC RESOURCE MITIGATION FUI
WETLAND PAYMENT CALCULATION
INSERT AMOUNTS IN YELLOW CELLS

1	**Convert square feet of impact to acr**	
INSERT SQ FT OF IMPACT	Square feet of impact =	153267.00
		43560.00
	Acres of impact =	3.5185
2	**Determine acreage of wetland const**	
	Forested wetlands:	5.2778
	Tidal wetlands:	10.5556
	All other areas:	5.2778
3	**Wetland construction cost:**	
	Forested wetlands:	$456,233.95
	Tidal Wetlands:	$912,467.91
	All other areas:	$456,233.95
4	**Land acquisition cost (See land valu**	
INSERT LAND VALUE FROM TABLE WHICH APPEARS TO THE LEFT. (Insert the amount do not copy and paste.)	Town land value:	35977
	Forested wetlands:	$189,879.02
	Tidal wetlands:	$379,758.05
	All other areas:	$189,879.02
5	**Construction + land costs:**	
	Forested wetland:	$646,112.98
	Tidal wetlands:	$1,292,225.95
	All other areas:	$646,112.98
6	**DES Administrative cost:**	
	Forested wetlands:	$129,222.60
	Tidal wetlands:	$258,445.19
	All other areas:	$129,222.60
**********	**TOTAL ARM PAYMENT**********	
	Forested wetlands:	$775,335.57
	Tidal wetlands:	$1,550,671.15
	All other areas:	$775,335.57

DES AQUATIC RESOURCE MITIGATION FUND
STREAM PAYMENT CALCULATION

INSERT LINEAR FEET OF IMPACT on BOTH BANKS AND CHANNEL	**Right Bank**	334.00
	Left Bank	
	Channel	80.0000
	TOTAL IMPACT	414.0000
	Stream Impact Cost:	$84,538.80
	DES Administrative cost:	
		$16,907.76
********* **TOTAL ARM FUND STREAM PAYMENT**********		
		$101,446.56

With Deductions

	BEDFORD 13953		
ITEM NUMBER		UNIT	QTY
650.2			
	STA. 186+30 - 191+00		
	Cornus amomum, Silky Dogwood, 4' Live Stakes	EA	140
	Alnus incana, Speckled Alder, 18" - 24" 1 gal. Potted Cont.	EA	140
	STA. 123+50 - 125+00		
	Cornus sericea, Red Osier Dogwood 4' Live Stakes	EA	30
	Salix exigua, Sand Bar Willow, 4' Live Stakes	EA	30
	Total Plants		340

Notes:
Live stakes to be planted during dormancy (late fall to early spring).
Do not allow live stakes to dry out.
Sta. 186+30 - 191+00
Roadside - Begin plantings 5' up from ditch line, two rows in groups of 5 alternating species.
Back side - Plant a single row in groups of 5 alternating species.
Spacing 5' OC
Sta. 123+50 - 125+00
Roadside - Begin plantings 5' up from ditch line, two rows in groups of 5 alternating species.
Spacing 5' OC
Watering and mulch (3" depth) subsidiary to 650.2 spec

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

WETLAND PLANS
FEDERAL AID PROJECT

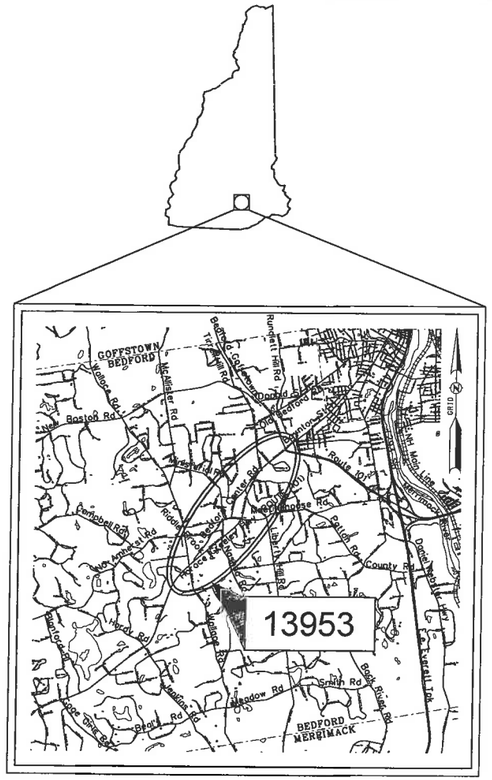
X-A000(143)
NH PROJECT NO. 13953
NH ROUTE 101

DESIGN DATA

NH ROUTE 101	
AVERAGE DAILY TRAFFIC 20 17	34,000
AVERAGE DAILY TRAFFIC 20 37	41,000
PERCENT OF TRUCKS	7%
DESIGN SPEED	40 mph
LENGTH OF PROJECT	2.20 mi

WALLACE ROAD	
AVERAGE DAILY TRAFFIC 20 17	8,800
AVERAGE DAILY TRAFFIC 20 37	11,000
PERCENT OF TRUCKS	-
DESIGN SPEED	35 mph
LENGTH OF PROJECT	700 ft

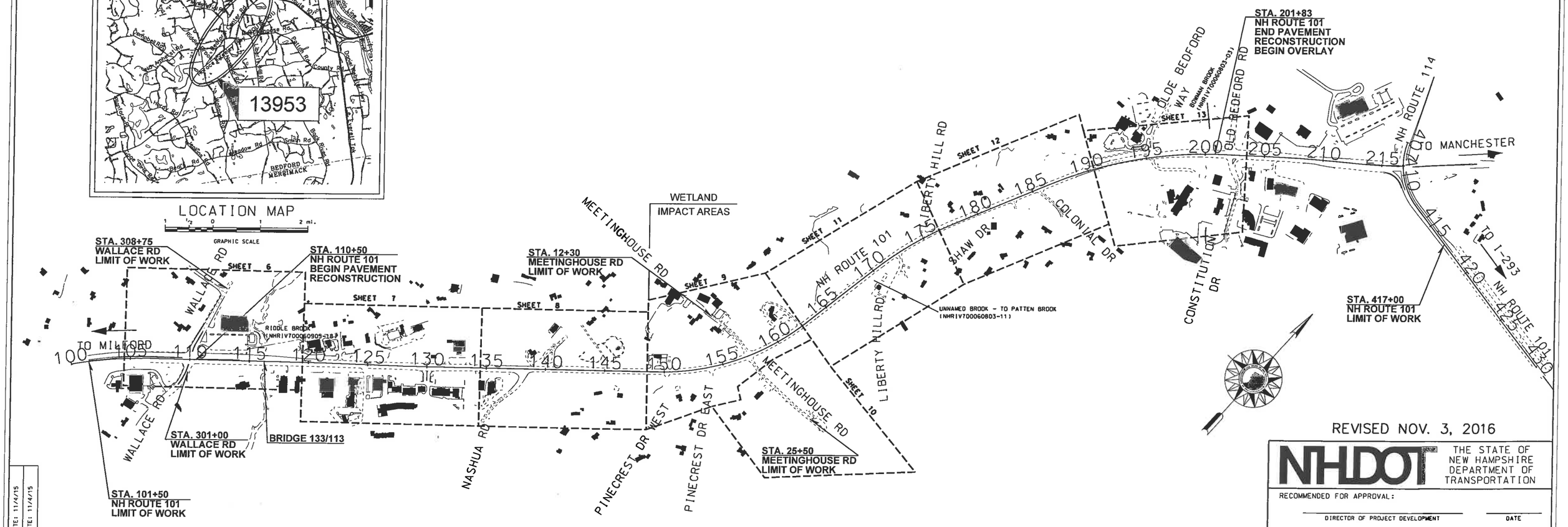
MEETINGHOUSE ROAD	
AVERAGE DAILY TRAFFIC 20 17	5,800
AVERAGE DAILY TRAFFIC 20 37	7,100
PERCENT OF TRUCKS	-
DESIGN SPEED	30 mph
LENGTH OF PROJECT	1,030 ft



LOCATION MAP

1 0 1 2 mi.

GRAPHIC SCALE



REVISED NOV. 3, 2016

INDEX OF SHEETS

TOWN OF BEDFORD
COUNTY OF HILLSBOROUGH

SCALE: 1"=1,000'

FOR CONSTRUCTION AND ALIGNMENT DETAILS - SEE CONSTRUCTION PLANS

DRAWN BY: ERP/DGB DATE: 11/4/15
CHECKED BY: LSF DATE: 11/4/15

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:

DIRECTOR OF PROJECT DEVELOPMENT — DATE

APPROVED:

ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

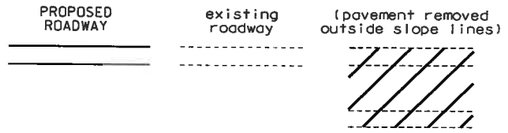
APPROVED:

DIVISION ADMINISTRATOR — DATE

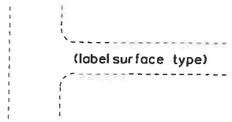
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-A000(143)	13953	1	25

GENERAL

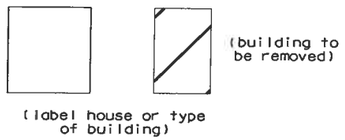
EDGE OF PAVEMENT
TRAVELED WAY



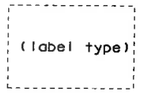
DRIVEWAYS



BUILDINGS

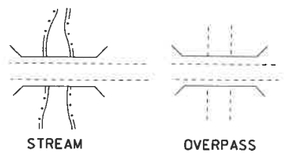


FOUNDATION

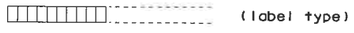


LEACH FIELD

BRIDGE CROSSINGS

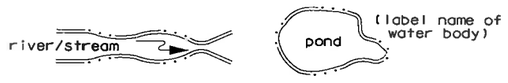


STEPS AND WALK



INTERMITTENT WATER COURSE

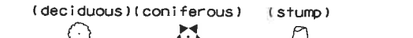
SHORE LINE



POTENTIAL WET AREA SYMBOL

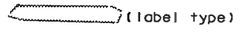
BRUSH OR WOODS LINE

TREES (PLANS)



TREE OR STUMP (CROSS-SECTIONS)

HEDGE

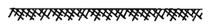


MONITORING WELL

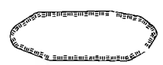
WELL

FLAG POLE

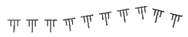
ORIGINAL GROUND (TYPICALS)



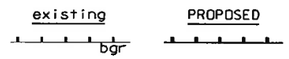
ROCK OUTCROP



ROCK LINE (TYPICALS & SECTIONS ONLY)

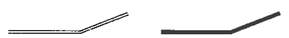


GUARDRAIL (label type)



JERSEY BARRIER

CURB (LABEL TYPE)



STONE WALL

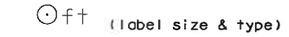
RETAINING WALL (LABEL TYPE)

FENCE (LABEL TYPE)

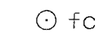
SIGNS

GAS PUMP

FUEL TANK (ABOVE GROUND)



STORAGE TANK FILLER CAP



SEPTIC TANK

GRAVE

MAILBOX

VENT PIPE

SATELLITE DISH ANTENNA

PHONE

GROUND LIGHT/LAMP POST

BORING LOCATION

TEST PIT

INTERSTATE NUMBERED HIGHWAY

UNITED STATES NUMBERED HIGHWAY

STATE NUMBERED HIGHWAY

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE

DELINEATED WETLAND
ORDINARY HIGH WATER
TOP OF BANK
TOP OF BANK & ORDINARY HIGH WATER
NORMAL HIGH WATER
WIDTH AT BANK FULL
PRIME WETLAND
PRIME WETLAND 100' BUFFER
NON-JURISDICTIONAL DRAINAGE AREA
COWARDIN DISTINCTION LINE
TIDAL BUFFER ZONE
DEVELOPED TIDAL BUFFER ZONE
HIGHEST OBSERVABLE TIDE LINE
MEAN HIGH WATER
MEAN LOW WATER
VERNAL POOL
SPECIAL AQUATIC SITE
REFERENCE LINE
WATER FRONT BUFFER
NATURAL WOODLAND BUFFER
PROTECTED SHORELAND

INVASIVE SPECIES LABEL

INVASIVE SPECIES

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY
100 YEAR FLOODPLAIN BOUNDARY
FLOODWAY

ENGINEERING

CONSTRUCTION BASELINE

PC, PT, POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE
SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT)
FINISHED GRADE ELEVATION (RIGHT)

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	13953_stdsymb1_2	13953	2	25

Louis Berger
Manchester, New Hampshire
(603) 644 5200

DRAINAGE

MANHOLE

CATCH BASIN — cb

DROP INLET — di

(existing) (PROPOSED)

DRAINAGE PIPE (existing) — (label size & type)

DRAINAGE PIPE (PROPOSED)

UNDERDRAIN (existing) W/ FLUSHING BASIN — fb — (label size & type)

UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN

show direction of flow

HEADER (existing & PROPOSED) — (with stone outlet protection)

END SECTION (existing & PROPOSED) — METAL or PLASTIC; RCP

OPEN DITCH (PROPOSED)

EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE — (label type)

RR RIGHT-OF-WAY LINE

PROPERTY LINE

PROPERTY LINE (COMMON OWNER) — Z

TOWN LINE — BOW / CONCORD

COUNTY LINE — COOS / GRAFTON

STATE LINE — MAINE / NEW HAMPSHIRE

NATIONAL FOREST

CONSERVATION LAND — LC

BENCH MARK / SURVEY DISK

BOUND — bnd — (PROPOSED)

STATE LINE/ TOWN LINE MONUMENT — S/L — T/L

NHDOT PROJECT MARKER

IRON PIPE OR PIN — ip

DRILL HOLE IN ROCK — dh

TAX MAP AND LOT NUMBER — 156 / 14 — 1642/341 — 6.80 Ac.±

PROPERTY PARCEL NUMBER — 12

HISTORIC PROPERTY — H

UTILITIES

existing PROPOSED

TELEPHONE POLE

POWER POLE

JOINT OCCUPANCY

MISCELLANEOUS/UNKNOWN POLE

GUY POLE OR PUSH BRACE

(plot point at face not center of symbol)

LIGHT POLE

LIGHT ON POWER POLE

LIGHT ON JOINT POLE

POLE STATUS: REMOVE, LEAVE, PROPOSED, OR TEMPORARY AS APPLICABLE e.g.: R L — P+04 25.0' — T+04 25.0'

RAILROAD — (label ownership)

RAILROAD SIGN

RAILROAD SIGNAL

UTILITY JUNCTION BOX — jb — JB

OVERHEAD ELECTRIC — OE

UNDERGROUND UTILITIES

WATER (on existing lines label size, type and note if abandoned) — W — PW

SEWER — S — PS

TELEPHONE — T — PT

ELECTRIC — E — PE

GAS — G — PG

LIGHTING — L — PL

INTELLIGENT TRANSPORTATION SYSTEM — ITS — PITS

FIBER OPTIC — FO — PFO

WATER SHUT OFF

GAS SHUT OFF

HYDRANT

MANHOLES

SEWER — MHS

TELEPHONE — MHT

ELECTRICAL — MHE

GAS — MHG

UNKNOWN

TRAFFIC SIGNALS / ITS

existing PROPOSED

MAST ARM (existing) — 30' MA (NOTE ANGLE FROM 8)

OPTICOM RECEIVER

OPTICOM STROBE

TRAFFIC SIGNAL

PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT

SIGNAL CONDUIT — C — PC

CONTROLLER CABINET — cc — CC

METER PEDESTAL — mp — MP

PULL BOX — pb — PB

LOOP DETECTOR (QUADRUPOLE) — (label size)

LOOP DETECTOR (RECTANGULAR) — (label size)

CAMERA POLE (CCTV)

FIBER OPTIC DELINEATOR — fod — FOD

FIBER OPTIC SPLICE VAULT — SVF

ITS EQUIPMENT CABINET — its — ITS

VARIABLE SPEED LIMIT SIGN

DYNAMIC MESSAGE SIGN

ROAD AND WEATHER INFO SYSTEM

CONSTRUCTION NOTES

CURB MARK NUMBER - BITUMINOUS — B-1

CURB MARK NUMBER - GRANITE — G-1

CLEARING AND GRUBBING AREA — A

DRAINAGE NOTE — 1

EROSION CONTROL NOTE — A

FENCING NOTE — A

GUARDRAIL NOTE — 1

ITS NOTE — 1

LIGHTING NOTE — A

TRAFFIC SIGNAL NOTE — 1

Louis Berger
Manchester, New Hampshire
(603) 644 5200

REVISION DATE: 11-21-2014

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13953_stdsymb1_2	13953	3	25

EROSION CONTROL STRATEGIES

1. ENVIRONMENTAL COMMITMENTS:
   - 1.1. THESE GUIDELINES DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH ANY CONTRACT PROVISIONS, OR APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
   - 1.2. THIS PROJECT WILL BE SUBJECT TO THE US EPA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER CONSTRUCTION GENERAL PERMIT AS ADMINISTERED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THIS PROJECT IS SUBJECT TO REQUIREMENTS IN THE MOST RECENT CONSTRUCTION GENERAL PERMIT (CGP).
   - 1.3. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NHDES WETLAND PERMIT, THE US ARMY CORPS OF ENGINEERS PERMIT, WATER QUALITY CERTIFICATION AND THE SPECIAL ATTENTION ITEMS INCLUDED IN THE CONTRACT DOCUMENTS.
   - 1.4. ALL STORM WATER, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION (DECEMBER 2008) (BMP MANUAL) AVAILABLE FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES).
   - 1.5. THE CONTRACTOR SHALL COMPLY WITH RSA 485-A:17, AND ALL, PUBLISHED NHDES ALTERATION OF TERRAIN ENV-WQ 1500 REQUIREMENTS (HTTP://DES.NH.GOV/ORGANIZATION/COMMISSIONER/LEGAL/RULES/INDEX.HTM)
   - 1.6. THE CONTRACTOR IS DIRECTED TO REVIEW AND COMPLY WITH SECTION 107.1 OF THE CONTRACT AS IT REFERS TO SPILLAGE, AND ALSO WITH REGARDS TO EROSION, POLLUTION, AND TURBIDITY PRECAUTIONS.

2. STANDARD EROSION CONTROL SEQUENCING APPLICABLE TO ALL CONSTRUCTION PROJECTS:
   - 2.1. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH DISTURBING ACTIVITIES. PERIMETER CONTROLS AND STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AS SHOWN IN THE BMP MANUAL AND AS DIRECTED BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARER.
   - 2.2. EROSION, SEDIMENTATION CONTROL MEASURES AND INFILTRATION BASINS SHALL BE CLEANED, REPLACED AND AUGMENTED AS NECESSARY TO PREVENT SEDIMENTATION BEYOND PROJECT LIMITS THROUGHOUT THE PROJECT DURATION.
   - 2.3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT AND SECTION 645 OF THE NHDOT SPECIFICATIONS FOR ROAD AND BRIDGES CONSTRUCTION.
   - 2.4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
     - (A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
     - (B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
     - (C) A MINIMUM OF 3" OF NON-ERODSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED;
     - (D) TEMPORARY SLOPE STABILIZATION CONFORMING TO TABLE 1 HAS BEEN PROPERLY INSTALLED
   - 2.5. ALL STOCKPILES SHALL BE CONTAINED WITH A PERIMETER CONTROL. IF THE STOCKPILE IS TO REMAIN UNDISTURBED FOR MORE THAN 14 DAYS, MULCHING WILL BE REQUIRED.
   - 2.6. A WATER TRUCK SHALL BE AVAILABLE TO CONTROL EXCESSIVE DUST AT THE DIRECTION OF THE CONTRACT ADMINISTRATOR.
   - 2.7. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN UNTIL THE AREA HAS BEEN PERMANENTLY STABILIZED.
   - 2.8. CONSTRUCTION PERFORMED ANY TIME BETWEEN NOVEMBER 30" AND MAY 1" OF ANY YEAR SHALL BE CONSIDERED WINTER CONSTRUCTION AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.
     - (A) ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15", OR WHICH ARE DISTURBED AFTER OCTOBER 15", SHALL BE STABILIZED IN ACCORDANCE WITH TABLE 1.
     - (B) ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15", OR WHICH ARE DISTURBED AFTER OCTOBER 15", SHALL BE STABILIZED TEMPORARILY WITH STONE OR IN ACCORDANCE WITH TABLE 1.
     - (C) AFTER NOVEMBER 30" INCOMPLETE ROAD SURFACES, WHERE WORK HAS STOPPED FOR THE SEASON, SHALL BE PROTECTED IN ACCORDANCE WITH TABLE 1.
     - (D) WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE PROJECT IS WITHOUT STABILIZATION AT ONE TIME, UNLESS A WINTER CONSTRUCTION PLAN HAS BEEN APPROVED BY NHDOT THAT MEETS THE REQUIREMENTS OF ENV-WQ 1505.02 AND ENV-WQ 1505.05.
     - (E) A SWPPP AMENDMENT SHALL BE SUBMITTED TO THE DEPARTMENT, FOR APPROVAL, ADDRESSING COLD WEATHER STABILIZATION (ENV-WQ 1505.05) AND INCLUDING THE REQUIREMENTS OF NO LESS THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK SCHEDULED AFTER NOVEMBER 30".

GENERAL CONSTRUCTION PLANNING AND SELECTION OF STRATEGIES TO CONTROL EROSION AND SEDIMENT ON HIGHWAY CONSTRUCTION PROJECTS

3. PLAN ACTIVITIES TO ACCOUNT FOR SENSITIVE SITE CONDITIONS:
   - 3.1. CLEARLY FLAG AREAS TO BE PROTECTED IN THE FIELD AND PROVIDE CONSTRUCTION BARRIERS TO PREVENT TRAFFICKING OUTSIDE OF WORK AREAS.
   - 3.2. CONSTRUCTION SHALL BE SEQUENCED TO LIMIT THE DURATION AND AREA OF EXPOSED SOILS.
   - 3.3. PROTECT AND MAXIMIZE EXISTING NATIVE VEGETATION AND NATURAL FOREST BUFFERS BETWEEN CONSTRUCTION ACTIVITY AND SENSITIVE AREAS.
   - 3.4. WHEN WORK IS PERFORMED IN AND NEAR WATER COURSES, STREAM FLOW DIVERSION METHODS SHALL BE IMPLEMENTED PRIOR TO ANY EXCAVATION OR FILLING.
   - 3.5. WHEN WORK IS PERFORMED WITHIN 50 FEET OF SURFACE WATERS (WETLAND, OPEN WATER OR FLOWING WATER), PERIMETER CONTROL SHALL BE ENHANCED CONSISTENT WITH SECTION 2.1.2.1. OF THE 2012 NPDES CONSTRUCTION GENERAL PERMIT.

4. MINIMIZE THE AMOUNT OF EXPOSED SOIL:
   - 4.1. CONSTRUCTION SHALL BE SEQUENCED TO LIMIT THE DURATION AND AREA OF EXPOSED SOILS. MINIMIZE THE AREA OF EXPOSED SOIL AT ANY ONE TIME. PHASING SHALL BE USED TO REDUCE THE AMOUNT AND DURATION OF SOIL EXPOSED TO THE ELEMENTS AND VEHICLE TRACKING.
   - 4.2. UTILIZE TEMPORARY MULCHING OR PROVIDE ALTERNATE TEMPORARY STABILIZATION ON EXPOSED SOILS IN ACCORDANCE WITH TABLE 1.
   - 4.3. THE MAXIMUM AMOUNT OF DISTURBED EARTH SHALL NOT EXCEED A TOTAL OF 5 ACRES FROM MAY 1" THROUGH NOVEMBER 30". OR EXCEED ONE ACRE DURING WINTER MONTHS. UNLESS THE CONTRACTOR DEMONSTRATES TO THE DEPARTMENT THAT THE ADDITIONAL AREA OF DISTURBANCE IS NECESSARY TO MEET THE CONTRACTORS CRITICAL PATH METHOD SCHEDULE (CPM), AND THE CONTRACTOR HAS ADEQUATE RESOURCES AVAILABLE TO ENSURE THAT ENVIRONMENTAL COMMITMENTS WILL BE MET.

5. CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT:
   - 5.1. DIVERT OFF SITE RUNOFF OR CLEAN WATER AWAY FROM THE CONSTRUCTION ACTIVITY TO REDUCE THE VOLUME THAT NEEDS TO BE TREATED ON SITE.
   - 5.2. DIVERT STORM RUNOFF FROM UPSLOPE DRAINAGE AREAS AWAY FROM DISTURBED AREAS, SLOPES, AND AROUND ACTIVE WORK AREAS AND TO A STABILIZED OUTLET LOCATION.
   - 5.3. CONSTRUCT IMPERMEABLE BARRIERS AS NECESSARY TO COLLECT OR DIVERT CONCENTRATED FLOWS FROM WORK OR DISTURBED AREAS.
   - 5.4. STABILIZE, TO APPROPRIATE ANTICIPATED VELOCITIES, CONVEYANCE CHANNELS OR PUMPING SYSTEMS NEEDED TO CONVEY CONSTRUCTION STORMWATER TO BASINS AND DISCHARGE LOCATIONS PRIOR TO USE.
   - 5.5. DIVERT OFF-SITE WATER THROUGH THE PROJECT IN AN APPROPRIATE MANNER SO NOT TO DISTURB THE UPSTREAM OR DOWNSTREAM SOILS. VEGETATION OR HYDROLOGY BEYOND THE PERMITTED AREA.

6. PROTECT SLOPES:
   - 6.1. INTERCEPT AND DIVERT STORM RUNOFF FROM UPSLOPE DRAINAGE AREAS AWAY FROM UNPROTECTED AND NEWLY ESTABLISHED AREAS AND SLOPES TO A STABILIZED OUTLET OR CONVEYANCE.
   - 6.2. CONSIDER HOW GROUNDWATER SEEPAGE ON CUT SLOPES MAY IMPACT SLOPE STABILITY AND INCORPORATE APPROPRIATE MEASURES TO MINIMIZE EROSION.
   - 6.3. CONVEY STORMWATER DOWN THE SLOPE IN A STABILIZED CHANNEL OR SLOPE DRAIN.
   - 6.4. THE OUTER FACE OF THE FILL SLOPE SHOULD BE IN A LOOSE RUFFLED CONDITION PRIOR TO TURF ESTABLISHMENT. TOPSOIL OR HUMUS LAYERS SHALL BE TRACKED UP AND DOWN THE SLOPE, DISKED, HARROWED, DRAGGED WITH A CHAIN OR MAT, MACHINE-RAKED, OR HAND-WORKED TO PRODUCE A RUFFLED SURFACE.

7. ESTABLISH STABILIZED CONSTRUCTION EXITS:
   - 7.1. INSTALL AND MAINTAIN CONSTRUCTION EXITS, ANYWHERE TRAFFIC LEAVES A CONSTRUCTION SITE ONTO A PUBLIC RIGHT-OF-WAY.
   - 7.2. SWEEP ALL CONSTRUCTION RELATED DEBRIS AND SOIL FROM THE ADJACENT PAVED ROADWAYS AS NECESSARY.

8. PROTECT STORM DRAIN INLETS:
   - 8.1. DIVERT SEDIMENT LADEN WATER AWAY FROM INLET STRUCTURES TO THE EXTENT POSSIBLE.
   - 8.2. INSTALL SEDIMENT BARRIERS AND SEDIMENT TRAPS AT INLETS TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
   - 8.3. CLEAN CATCH BASINS, DRAINAGE PIPES, AND CULVERTS IF SIGNIFICANT SEDIMENT IS DEPOSITED.
   - 8.4. DROP INLET SEDIMENT BARRIERS SHOULD NEVER BE USED AS THE PRIMARY MEANS OF SEDIMENT CONTROL AND SHOULD ONLY BE USED TO PROVIDE AN ADDITIONAL LEVEL OF PROTECTION TO STRUCTURES AND DOWN-GRADIENT SENSITIVE RECEPTORS.

9. SOIL STABILIZATION:
   - 9.1. WITHIN THREE DAYS OF THE LAST ACTIVITY IN AN AREA, ALL EXPOSED SOIL AREAS, WHERE CONSTRUCTION ACTIVITIES ARE COMPLETE, SHALL BE STABILIZED.
   - 9.2. IN ALL AREAS, TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED IN ACCORDANCE WITH THE STABILIZATION REQUIREMENTS (SECTION 2.2) OF THE 2012 CGP. (SEE TABLE 1 FOR GUIDANCE ON THE SELECTION OF TEMPORARY SOIL STABILIZATION MEASURES.)
   - 9.3. EROSION CONTROL SEED MIX SHALL BE SOWN IN ALL INACTIVE CONSTRUCTION AREAS THAT WILL NOT BE PERMANENTLY SEEDED WITHIN TWO WEEKS OF DISTURBANCE AND PRIOR TO SEPTEMBER 15, OF ANY GIVEN YEAR. IN ORDER TO ACHIEVE VEGETATIVE STABILIZATION PRIOR TO THE END OF THE GROWING SEASON.
   - 9.4. SOIL TACKIFIERS MAY BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND REAPPLIED AS NECESSARY TO MINIMIZE SOIL AND MULCH LOSS UNTIL PERMANENT VEGETATION IS ESTABLISHED.

10. RETAIN SEDIMENT ON-SITE AND CONTROL DEWATERING PRACTICES:
    - 10.1. TEMPORARY SEDIMENT BASINS (CGP-SECTION 2.1.3.2) OR SEDIMENT TRAPS (ENV-WQ 1506.10) SHALL BE SIZED TO RETAIN, ON SITE, THE VOLUME OF A 2-YEAR 24-HOUR STORM EVENT FOR ANY AREA OF DISTURBANCE OR 3,600 CUBIC FEET OF STORMWATER RUNOFF PER ACRE OF DISTURBANCE, WHICHEVER IS GREATER. TEMPORARY SEDIMENT BASINS USED TO TREAT STORMWATER RUNOFF FROM AREAS GREATER THAN 5-ACRES OF DISTURBANCE SHALL BE SIZED TO ALSO CONTROL STORMWATER RUNOFF FROM A 10-YEAR 24 HOUR STORM EVENT. ON-SITE RETENTION OF THE 10-YEAR 24-HOUR EVENT IS NOT REQUIRED.
    - 10.2. CONSTRUCT AND STABILIZE DEWATERING INFILTRATION BASINS PRIOR TO ANY EXCAVATION THAT MAY REQUIRE DEWATERING.
    - 10.3. TEMPORARY SEDIMENT BASINS OR TRAPS SHALL BE PLACED AND STABILIZED AT LOCATIONS WHERE CONCENTRATED FLOW (CHANNELS AND PIPES) DISCHARGE TO THE SURROUNDING ENVIRONMENT FROM AREAS OF UNSTABILIZED EARTH DISTURBING ACTIVITIES.

11. ADDITIONAL EROSION AND SEDIMENT CONTROL GENERAL PRACTICES:
    - 11.1. USE TEMPORARY MULCHING, PERMANENT MULCHING, TEMPORARY VEGETATIVE COVER, AND PERMANENT VEGETATIVE COVER TO REDUCE THE NEED FOR DUST CONTROL. USE MECHANICAL SWEEPERS ON PAVED SURFACES WHERE NECESSARY TO PREVENT DUST BUILDUP. APPLY WATER, OR OTHER DUST INHIBITING AGENTS OR TACKIFIERS, AS APPROVED BY THE NHDES.
    - 11.2. ALL STOCKPILES SHALL BE CONTAINED WITH TEMPORARY PERIMETER CONTROLS. INACTIVE SOIL STOCKPILES SHOULD BE PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY EROSION CONTROL SEED MIX AND MULCH, SOIL BINDER) OR COVERED WITH ANCHORED TARPS.
    - 11.3. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED IN ACCORDANCE WITH SECTION 645 OF NHDOT SPECIFICATIONS. WEEKLY AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.25 IN. OF RAIN PER 24-HOUR PERIOD. EROSION AND SEDIMENT CONTROL MEASURES WILL ALSO BE INSPECTED IN ACCORDANCE WITH THE GUIDANCE MEMO FROM THE NHDES CONTAINED WITHIN THE CONTRACT PROPOSAL AND THE EPA CONSTRUCTION GENERAL PERMIT.
    - 11.4. THE CONTRACTOR SHOULD UTILIZE STORM DRAIN INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING A STORM DRAINAGE SYSTEM PRIOR TO THE PERMANENT STABILIZATION OF THE CONTRIBUTING DISTURBED AREA.
    - 11.5. PERMANENT STABILIZATION MEASURES WILL BE CONSTRUCTED AND MAINTAINED IN LOCATIONS AS SHOWN ON THE CONSTRUCTION PLANS TO STABILIZE AREAS. VEGETATIVE STABILIZATION SHALL NOT BE CONSIDERED PERMANENTLY STABILIZED UNTIL VEGETATIVE GROWTH COVERS AT LEAST 85% OF THE DISTURBED AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL FOR ONE YEAR AFTER PROJECT COMPLETION.
    - 11.6. CATCH BASINS: CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT ENTER ANY EXISTING CATCH BASINS DURING CONSTRUCTION. THE CONTRACTOR SHALL PLACE TEMPORARY STONE INLET PROTECTION OVER INLETS IN AREAS OF SOIL DISTURBANCE THAT ARE SUBJECT TO SEDIMENT CONTAMINATION.
    - 11.7. TEMPORARY AND PERMANENT DITCHES SHALL BE CONSTRUCTED, STABILIZED AND MAINTAINED IN A MANNER THAT WILL MINIMIZE SCOUR. TEMPORARY AND PERMANENT DITCHES SHALL BE DIRECTED TO DRAIN TO SEDIMENT BASINS OR STORM WATER COLLECTION AREAS.
    - 11.8. WINTER EXCAVATION AND EARTHWORK ACTIVITIES NEED TO BE LIMITED IN EXTENT AND DURATION, TO MINIMIZE POTENTIAL EROSION AND SEDIMENTATION IMPACTS. THE AREA OF EXPOSED SOIL SHALL BE LIMITED TO ONE ACRE, OR THAT WHICH CAN BE STABILIZED AT THE END OF EACH DAY UNLESS A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY THE DEPARTMENT.
    - 11.9. CHANNEL PROTECTION MEASURES SHALL BE SUPPLEMENTED WITH PERIMETER CONTROL MEASURES WHEN THE DITCH LINES OCCUR AT THE BOTTOM OF LONG FILL SLOPES. THE PERIMETER CONTROLS SHALL BE INSTALLED ON THE FILL SLOPE TO MINIMIZE THE POTENTIAL FOR FILL SLOPE SEDIMENT DEPOSITS IN THE DITCH LINE.

BEST MANAGEMENT PRACTICES (BMP) BASED ON AMOUNT OF OPEN CONSTRUCTION AREA

12. STRATEGIES SPECIFIC TO OPEN AREAS LESS THAN 5 ACRES:
    - 12.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500: ALTERATION OF TERRAIN FOR CONSTRUCTION AND USE ALL CONVENTIONAL BMP STRATEGIES.
    - 12.2. SLOPES STEEPER THAN 3:1 WILL RECEIVE TURF ESTABLISHMENT WITH MATTING.
    - 12.3. SLOPES 3:1 OR FLATTER WILL RECEIVE TURF ESTABLISHMENT ALONE.
    - 12.4. AREAS WHERE HAUL ROADS ARE CONSTRUCTED AND STORMWATER CANNOT BE TREATED THE DEPARTMENT WILL CONSIDER INFILTRATION.
    - 12.5. FOR HAUL ROADS ADJACENT TO SENSITIVE ENVIRONMENTAL AREAS OR STEEPER THAN 5%, THE DEPARTMENT WILL CONSIDER USING EROSION STONE, CRUSHED GRAVEL, OR CRUSHED STONE BASE TO HELP MINIMIZE EROSION ISSUES.
    - 12.6. ALL AREAS THAT CAN BE STABILIZED SHALL BE STABILIZED PRIOR TO OPENING UP NEW TERRITORY.
    - 12.7. DETENTION BASINS SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE A 2 YEAR STORM EVENT.

13. STRATEGIES SPECIFIC TO OPEN AREAS BETWEEN 5 AND 10 ACRES:
    - 13.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500 ALTERATION OF TERRAIN AND SHALL USE CONVENTIONAL BMP STRATEGIES AND ALL TREATMENT OPTIONS USED FOR UNDER 5 ACRES WILL BE UTILIZED.
    - 13.2. DETENTION BASINS WILL BE CONSTRUCTED TO ACCOMMODATE THE 2-YEAR 24-HOUR STORM EVENT AND CONTROL A 10-YEAR 24-HOUR STORM EVENT.
    - 13.3. SLOPES STEEPER THAN A 3:1 WILL RECEIVE TURF ESTABLISHMENT WITH MATTING OR OTHER TEMPORARY SOIL STABILIZATION MEASURES DETAILED IN TABLE 1. THE CONTRACTOR MAY ALSO CONSIDER A SOIL BINDER IN ACCORDANCE WITH THE NHDES APPROVALS OR REGULATIONS. OTHER ALTERNATIVE MEASURES, SUCH AS BONDED FIBER MATRIXES (BFMS) OR FLEXIBLE GROWTH MEDIUMS (FGMS) MAY BE UTILIZED, IF MEETING THE NHDES APPROVALS AND REGULATIONS.
    - 13.4. SLOPES 3:1 OR FLATTER WILL RECEIVE TURF ESTABLISHMENT OR OTHER TEMPORARY SOIL STABILIZATION MEASURES DETAILED IN TABLE 1. THE CONTRACTOR MAY ALSO CONSIDER A SOIL BINDER IN ACCORDANCE WITH THE NHDES APPROVALS OR REGULATIONS.

14. STRATEGIES SPECIFIC TO OPEN AREAS OVER 10 ACRES:
    - 14.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500 ALTERATION OF TERRAIN AND SHALL USE CONVENTIONAL BMP STRATEGIES AND ALL TREATMENT OPTIONS USED FOR UNDER 5 ACRES AND BETWEEN 5 AND 10 ACRES WILL BE UTILIZED.
    - 14.2. THE DEPARTMENT ANTICIPATES THAT SOIL BINDERS WILL BE NEEDED ON ALL SLOPES STEEPER THAN 3:1. IN ORDER TO MINIMIZE EROSION AND REDUCE THE AMOUNT OF SEDIMENT IN THE STORMWATER TREATMENT BASINS.
    - 14.3. THE CONTRACTOR WILL BE REQUIRED TO HAVE AN APPROVED DESIGN IN ACCORDANCE WITH ENV-WQ 1506.12 FOR AN ACTIVE FLOCCULANT TREATMENT SYSTEM TO TREAT AND RELEASE WATER CAPTURED IN STORM WATER BASINS. THE CONTRACTOR SHALL ALSO RETAIN THE SERVICES OF AN ENVIRONMENTAL CONSULTANT WHO HAS DEMONSTRATED EXPERIENCE IN THE DESIGN OF FLOCCULANT TREATMENT SYSTEMS. THE CONSULTANT WILL ALSO BE RESPONSIBLE FOR THE IMPLEMENTATION AND MONITORING OF THE SYSTEM.

TABLE 1
GUIDANCE ON SELECTING TEMPORARY SOIL STABILIZATION MEASURES

APPLICATION AREAS	DRY MULCH METHODS				HYDRAULICALLY APPLIED MULCHES[2]				ROLLED EROSION CONTROL BLANKETS[3]			
	HMT	WC	SG	CB	HM	SMM	BFM	FRM	SNSB	DNSB	DNSCB	DNCB
SLOPES[1]												
STEEPER THAN 2:1	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	YES
2:1 SLOPE	YES'	YES'	YES	YES	NO	NO	YES	YES	NO	YES	YES	YES
3:1 SLOPE	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO
4:1 SLOPE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
WINTER STABILIZATION	4T/AC	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES
CHANNELS												
LOW FLOW CHANNELS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
HIGH FLOW CHANNELS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES

ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE
HMT	HAY MULCH & TACK	HM	HYDRAULIC MULCH	SNSB	SINGLE NET STRAW BLANKET
WC	WOOD CHIPS	SMM	STABILIZED MULCH MATRIX	DNSB	DOUBLE NET STRAW BLANKET
SG	STUMP GRINDINGS	BFM	BONDED FIBER MATRIX	DNSCB	2 NET STRAW-COCONUT BLANKET
CB	COMPOST BLANKET	FRM	FIBER REINFORCED MEDIUM	DNCB	2 NET COCONUT BLANKET

NOTES:
1. ALL SLOPE STABILIZATION OPTIONS ASSUME A SLOPE LENGTH ≤10 TIMES THE HORIZONTAL DISTANCE COMPONENT OF THE SLOPE, IN FEET.
2. PRODUCTS CONTAINING POLYACRYLAMIDE (PAM) SHALL NOT BE APPLIED DIRECTLY TO OR WITHIN 100 FEET OF ANY SURFACE WATER WITHOUT PRIOR WRITTEN APPROVAL FROM THE NH DEPARTMENT OF ENVIRONMENTAL SERVICES.
3. ALL EROSION CONTROL BLANKETS SHALL BE MADE WITH WILDLIFE FRIENDLY BIODEGRADABLE NETTING.

REVISED NOV. 3, 2016

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN
WETLAND IMPACT PLANS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
12-21-2015	erosstrat	13953	4	25

WETLAND IMPACT SUMMARY

WETLAND DESIGNATION	WETLAND CLASSIFICATION	LOCATION	AREA			LINEAR FEET OF IMPACTS			
			PERMANENT IMPACTS		TEMPORARY IMPACTS	PERMANENT IMPACTS CHANNEL	PERMANENT IMPACTS BANK	TEMPORARY IMPACTS CHANNEL	TEMPORARY IMPACTS BANK
			N.H.W.B. (NON-WETLAND)	N.H.W.B. & A.C.O.E. (WETLAND)					
			SF	SF	SF	LF	LF	LF	LF
3A	BANK	A	6922				373		
3B	BANK	G	3178				169		
7	R2UB3	D			1095			42	
7	R2UB3	H		217		27			
7C	BANK	D1	708				41		
8	PEM1	B			458				
8	PEM1	C		1083					
11	PEM1	E			1805				
11	PEM1	F		2840					
12	PSS1	I		102					
13	R2UB3	M		121		21			
13	R2UB3	N			123			31	
13A	BANK	L	377				50		
13A	BANK	O			364				36
14	R2UB3	K		1609		155			
14A	BANK	J	3786				259		
15	PSS1	P			2371				
15	PSS1	Q		7616					
16	PFO1	R			201				
16	PFO1	T		2343					
17	PSS1	S		6761					
17	PSS1	U			2491				
18	PEM1	V			280				
18	PEM1	W		1884					
19	PEM1	Z		3554					
20	PFO1	AA			1026				
20	PFO1	AB		4139					
21	PEM1	X		1309					
21	PEM1	Y			1209				
23	PEM1	AE			628				
23	PEM1	AC		1077					
23	PEM1	AD			477				
24	PFO1	AF		10174					
24	PFO1	AG			2002				
25	PSS1	AH		1324					
25	PSS1	AI			640				
26	PEM1	AJ		350					
27	PEM1	AK		3068					
28	PEM1	AL		12151					
28	PEM1	AM			3237				
29	PFO1	AO		276					
29	PFO1	AN			183				
30	PSS1	AP			233				
30	PSS1	AQ		325					
31	PEM1	AR		3243					
31	PEM1	AS			516				
35	PEM1	AW		10124					
35	PEM1	AX			1002				
36	PFO1	AT		5231					
36	PFO1	AT1		1022					
36	PFO1	AZ			1898				
36	PFO1	AZ1			433				
37	PEM1	AU		25661					
37	PEM1	AV			7891				
39	PEM1	AY		4514					

WETLAND IMPACT SUMMARY

WETLAND DESIGNATION	WETLAND CLASSIFICATION	LOCATION	AREA			LINEAR FEET OF IMPACTS			
			PERMANENT IMPACTS		TEMPORARY IMPACTS	PERMANENT IMPACTS CHANNEL	PERMANENT IMPACTS BANK	TEMPORARY IMPACTS CHANNEL	TEMPORARY IMPACTS BANK
			N.H.W.B. (NON-WETLAND)	N.H.W.B. & A.C.O.E. (WETLAND)					
			SF	SF	SF	LF	LF	LF	LF
40	PSS1	BA		5944					
40	PSS1	BB			4139				
41	PEM1	BC		5421					
41	PEM1	BD			3016				
42	PUB3	BG			628				
42	PUB3	BH		1248					
43	PAB4	BE		1392					
43	PAB4	BF			1088				
44	PFO1	BI		982					
44	PFO1	BJ			595				
45	PEM1	BL		1554					
45	PEM1	BM			457				
47	PUB3	BP		1473					
48	PSS1	BN		1542					
48	PSS1	BO			1845				
50	PEM1	BQ		1180					
51	PEM1	BR		237					
52	PEM1	BU		1674					
52	PEM1	BV			990				
53	PFO1	BS			2003				
53	PFO1	BW		3213					
54	PEM1	BZ		14300					
54	R2UB3	BZ1		3991		518	460		
54	BANK	BZ2	1429				410		
54	PEM1	CA			6922			44	
55	PEM1	BX		1751					
55	PEM1	BY			2780				
56	PEM1	CB		467					
57	PFO1	CC		192					
57	R2UB3	CC1		247		26	22		
57	BANK	CC2	135				25		
57	PFO1	CD			348				
57	R2UB3	CD1			202			27	70
58	R2UB3	CG		194		27			
58	BANK	CG1	164				50		
58	R2UB3	CH			34			5	
58A	BANK	CI			805				58
58A	BANK	CJ	2471				140		
59	PFO1	CE		135					
60A	BANK	CK	319				47		
65	PEM1	BK		391					

WETLAND CLASSIFICATION CODES

PAB4	PALUSTRINE AQUATIC BED, FLOATING VASCULAR
PEM1	PALUSTRINE EMERGENT, PERSISTENT
PFO1	PALUSTRINE FORESTED WETLAND, BROAD-LEAVED DECIDUOUS
PSS1	PALUSTRINE SCRUB-SHRUB SWAMP, BROAD-LEAVED DECIDUOUS
PUB3	PALUSTRINE UNCONSOLIDATED BOTTOM, MUD
R2UB3	RIVERINE LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, COBBLE/GRAVEL
R4SB5	RIVERINE INTERMITTENT STREAMBED, MUD

Permanent Impacts: 179135 SF
Temporary Impacts: 56416 SF

Total Impacts: 235551 SF

Channel Permanent Impacts: 774 LF
Bank Permanent Impacts: 2046 LF
Channel Temporary Impacts: 149 LF
Bank Temporary Impacts: 164 LF

Total Impacts: 3133 LF

LEGEND

PERMANENT N.H.W.B & A.C.O.E (WETLAND)

PERMANENT N.H.W.B (NON-WETLAND)

TEMPORARY IMPACTS

REVISED NOV. 3, 2016

50 0 50 100
SCALE IN FEET

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN
WETLAND IMPACT SUMMARY AND CLASSIFICATION TABLE

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETTABLE 01	13953	5	25

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

	DATE	
SDR PROCESSED		
NEW DESIGN	DATE 08/23/16	ERW
SHEET CHECKED	DATE 08/23/16	LSF
AS BUILT DETAILS	DATE	

REVISIONS AFTER PROPOSAL

STATION	STATION	DESCRIPTION	NUMBER	DATE

		DATE
SDR PROCESSED		
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

Briar Road

Wallace Road

NH Route 101

Bedford Center Road

FORD, HENRY C. & DOROTHY J.

THE DAVID & KATHLEEN PETERSON IRREVOCABLE TRUST

ELVA M. NELSON REVOCABLE TRUST

KATHERINE M. MCLAUGHLIN IRREVOCABLE TRUST OF 2006

MCLAUGHLIN, MATTHEW F. & DEBRA K.

209 ROUTE 101 REALTY LLC

STATE OF NH DOT

136 BEDFORD CENTER ROAD CONDOMINIUM

TUXMAN, LLC

30 WEST RIVER ROAD, LLC

CHALANT TOO, INC

WILLIAM H. CURRY REVOCABLE TRUST FBO KENWIDER, SUSAN C. CURRY, THOMAS

SLOPE EASEMENT

DRAIN/SLOPE EASEMENT

CARON SEE NOTE

EXIST. C.A.R.O.W.

EXIST. R.O.W.

MATCH TO SHEET NO. 7

REVISED NOV. 3, 2016

50 0 50 100

SCALE IN FEET

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND PLAN 1
PROPOSED CONDITION

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 01	13953	6	25

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

		DATE
SDR PROCCESSED		
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

MATCH TO SHEET NO. 6

MATCH TO SHEET NO. 8

NH Route 101

Chestnut Drive

BEDFORD CENTER HISTORIC DISTRICT

6-UB 136 BEDFORD CENTER ROAD LLC

6-UA 136 BEDFORD CENTER ROAD CONDOMINIUM

7 NIGHTHAWK REALTY, LLC

9 NORTHERN NEW ENGLAND TELEPHONE OPERATIONS LLC

10 R.E.L. REVOCABLE TRUST

12 NORKAEF REALTY CORPORATION

15 STATE OF NH (DOT)

11 BEDFORD VILLAGE SHOPS CONDOMINIUM ASSOCIATION

3-1 88 ROUTE 101 CONDOMINIUM ASSOCIATION

6 Y.R. LIMITED PARTNERSHIP

8 GREINER INVESTMENTS LLC

5 B.J.C. REALTY, LLC

n/f CYNTHIA J. LAMY 199 TRUST

14 R2UB3

13 R2UB3

13A BANK

15 PSS1

17 PSS1

SLOPE EASEMENT

DRAIN/SLOPE EASEMENT

REVISED NOV. 3, 2016

SCALE IN FEET 50 0 50 100

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND PLAN 2
PROPOSED CONDITION

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 02	13953	7	25

REVISIONS AFTER PROPOSAL

STATION	STATION	DESCRIPTION	NUMBER	DATE

		DATE
SDR PROCCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

MATCH TO SHEET NO. 7

MATCH TO SHEET NO. 9

Bell Hill Road

NH Route 101

Nashua Road

FOUR BELL HILL ROAD CONDOMINIUM UNIT OWNERS ASSOCIATION

CADWALLADER ROBERT T. & LORRAINE M.

STATE OF NH (DOT)

DAVID R. HALL REVOCABLE TRUST

TOWN OF BEDFORD

GLOBAL COMPANIES LLC & EXXONMOBIL OIL CORPORATION

JUDITH A. PENNOCK REVOCABLE TRUST

SUPERRON, KEITH S. & GWEN M.

WALLACE, PETER RICHARD & LAURIE ANN

LILIKOI REALTY TRUST

166 ROUTE 101 CONDOMINIUM ASSOCIATION

166 ROUTE 101 CONDOMINIUM ASSOCIATION

ACCORDING TO RESEARCH PERFORMED BY NHDOT: THE R.O.W. HERE WAS DEDICATED TO THE TOWN BY THE C & M RR FOR HIGHWAY RELOCATION. NO DISCONTINUANCE WAS FOUND. THE R.R. OWNS THE UNDERLYING FEE INTEREST (598/164).

ACCORDING TO RESEARCH PERFORMED BY NHDOT: THE R.O.W. HERE WAS DEDICATED TO THE TOWN BY THE C & W RR FOR HIGHWAY RELOCATION. NO DISCONTINUANCE WAS FOUND. THE R.P. OWNS THE UNDERLYING FEE INTEREST (592/130).

DRAIN/SLOPE EASEMENT

SLOPE EASEMENT

BEDFORD CENTER HISTORIC DISTRICT

REVISED NOV. 3, 2016

50 0 50 100

SCALE IN FEET

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

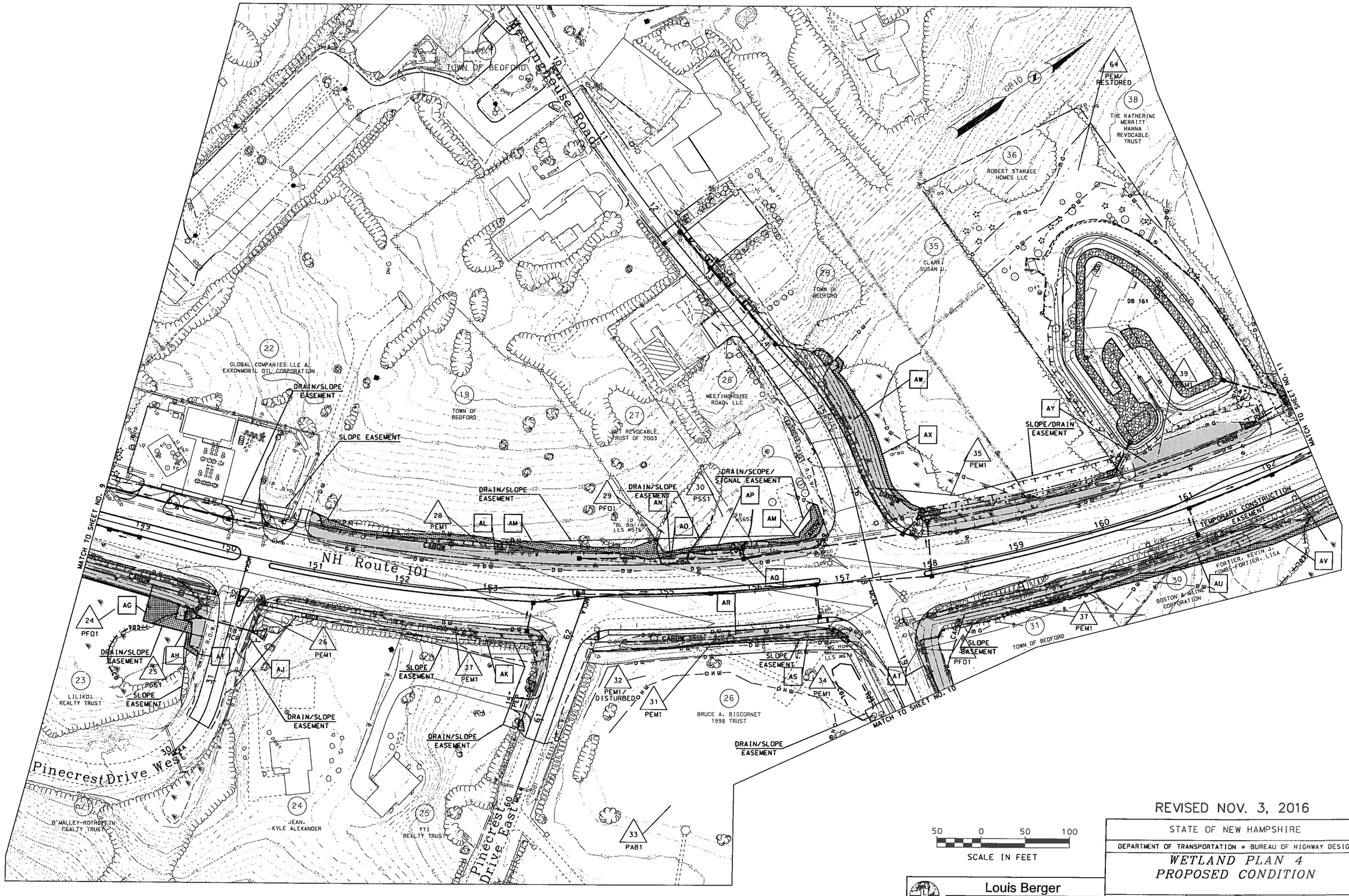
WETLAND PLAN 3
PROPOSED CONDITION

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 03	13953	8	25

REVISIONS AFTER PROPOSAL

STATION	STATION	DESCRIPTION	NUMBER	DATE

		DATE
SDR PROCCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE



REVISED NOV. 3, 2016

50 0 50 100

SCALE IN FEET

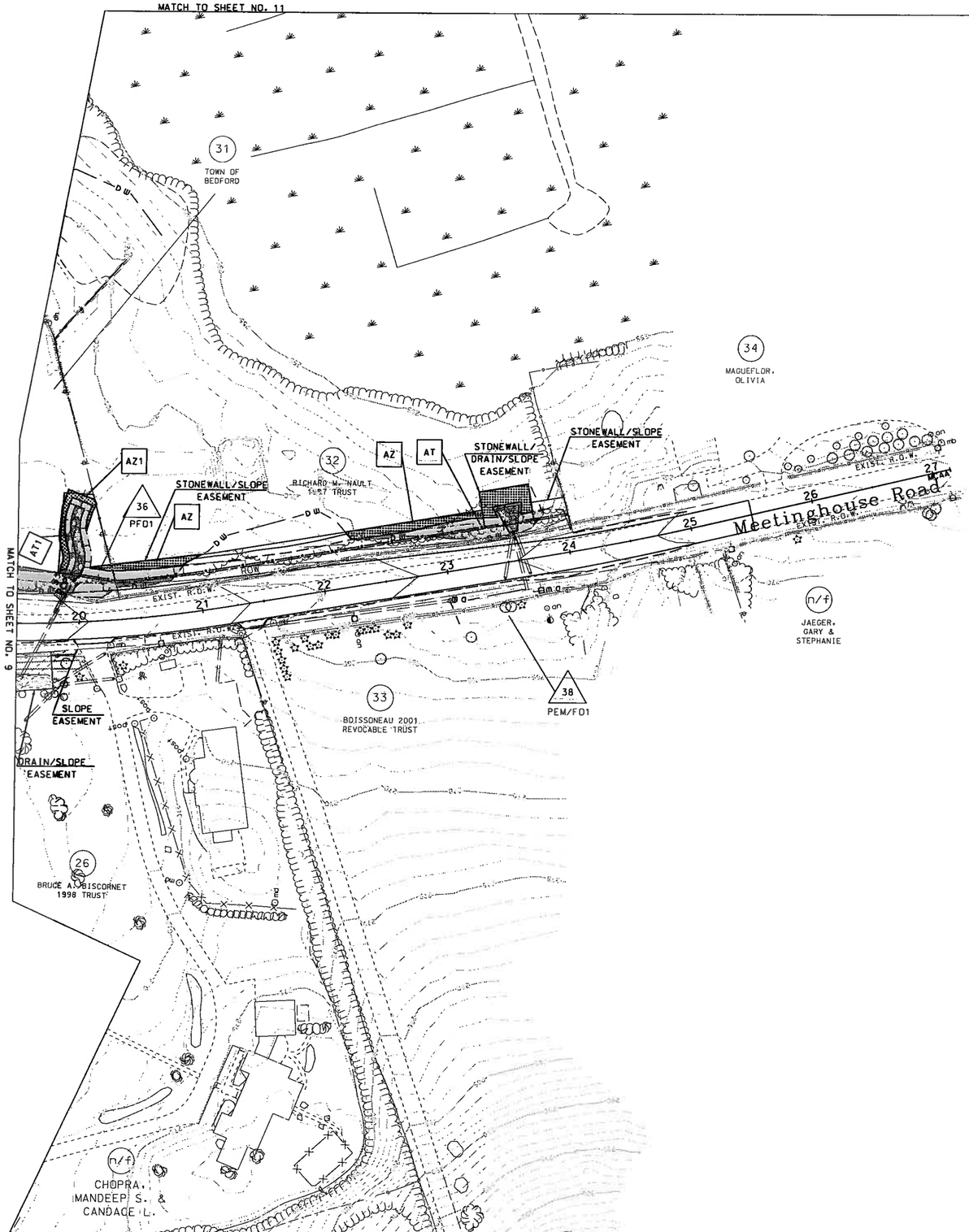
Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND PLAN 4
PROPOSED CONDITION

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 04	13953	9	25



REVISIONS AFTER PROPOSAL

DESCRIPTION	STATION	STATION	DATE	NUMBER	DATE

		DATE
SDR PROCCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

50 0 50 100
SCALE IN FEET

REVISED NOV. 3, 2016

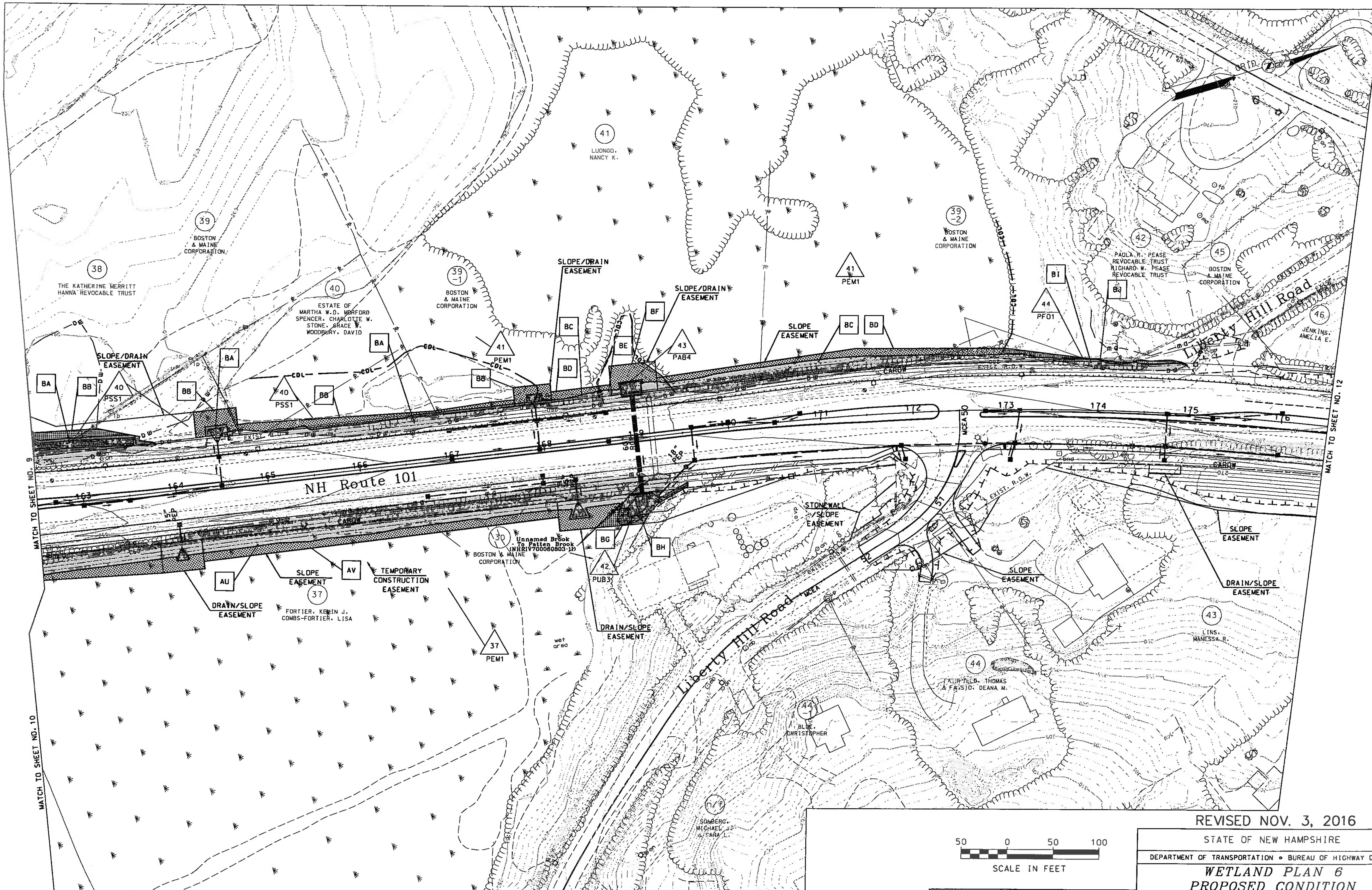
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND PLAN 5
PROPOSED CONDITION

Louis Berger
Manchester, New Hampshire
(603) 644 5200

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 05	13953	10	25



REVISED NOV. 3, 2016

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND PLAN 6
PROPOSED CONDITION

Louis Berger
Manchester, New Hampshire
(603) 644 5200

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 06	13953	11	25

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	NUMBER	DATE

	DATE
SDR PROCCESSED	
NEW DESIGN — ERW	DATE 08/23/16
SHEET CHECKED — LSF	DATE 08/23/16
AS BUILT DETAILS	DATE

Liberty Hill Road

Bedford Center Road

NH Route 101

Shaw Drive

Colonial Drive

BOSTON & MAINE CORPORATION

JENKINS, AMELIA E.

BORRAZZO, HENRY E., JR. & ROBIN L.

LUKE, LIANE A. and THE THOMAS LUKE SUPPLEMENTAL NEEDS TRUST

BEDFORD MANAGEMENT COMPANY

KRISTIN M. PRINCE, REVOCABLE TRUST

FOSTER, STEPHEN W. & COLLEEN S.

ROLAND G. PRUD'HOMME REVOCABLE TRUST OF 2005

RUBIN, JONATHAN MICHAEL & KELLIE JEAN

BOSTON & MAINE CORPORATION

ESTATE OF HENRY WHEELER III & GUTH, POLLY W.

CHANDONNET, KEITH T. & SUSAN

MCQUADE BROOK, LLC

HENG, VICHIRA & SOPHY

LINS, MANESSA R.

SLOPE EASEMENT

DRAIN/SLOPE EASEMENT

MATCH TO SHEET NO. 11

MATCH TO SHEET NO. 13

SEE NOTE 4 SHEET 1

PROJ. P-2133 STA. 262+00

(UNRELOCATED & NOT DISCONTINUED)

CLASS V

CLASS II

REVISED NOV. 3, 2016

50 0 50 100

SCALE IN FEET

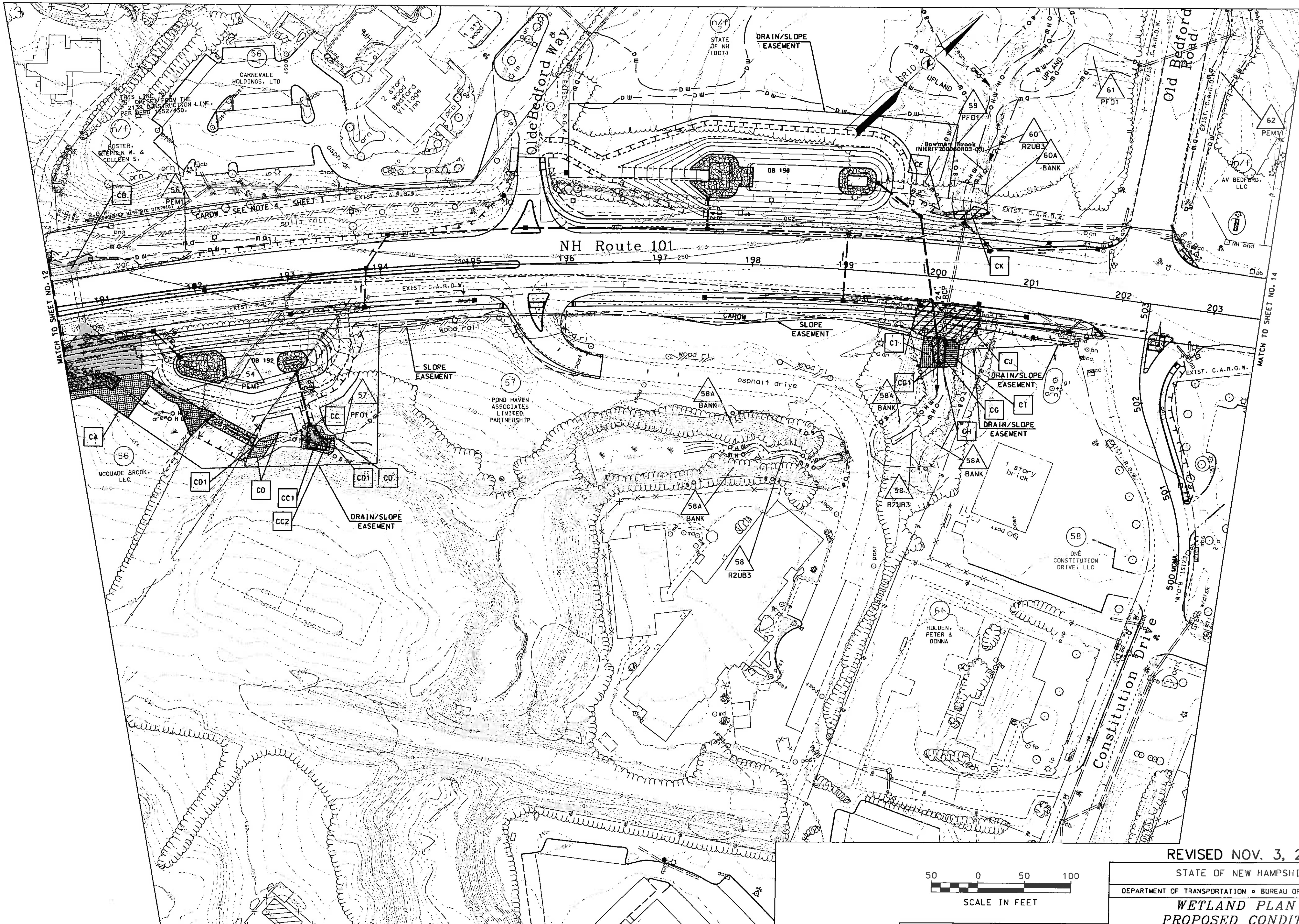
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND PLAN 7
PROPOSED CONDITION

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 07	13953	12	25

Louis Berger
Manchester, New Hampshire
(603) 644 5200



REVISED NOV. 3, 2016

SCALE IN FEET (50 0 50 100)

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND PLAN 8
PROPOSED CONDITION

Louis Berger
Manchester, New Hampshire
(603) 644 5200

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 08	13953	13	25

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

		DATE
SDR PROCESSED		
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

MATCH TO SHEET NO. 13

MATCH TO SHEET NO. 15

NH Route 101

204 205 206 207 208 209 210 211 212 213 214

EXIST. C.A.R.O.W.

EXISTING DETENTION POND

66 PEM1

DOWNGRID

MATCH TO SHEET NO. 15

n/f AV BEDFORD, LLC

n/f BEBEORD HILLS REAL ESTATE, LLC

n/f AV BEDFORD, LLC

n/f FLATLEY, JOHN J.

1 story brick/wood First Pioneer Farm Credit

59

FARM CREDIT EAST, ACA

60

TOWN OF BEDFORD

asph drive & parking

2 story brick/conc block Bedford Safety Complex

STATE OF NH (DOT)

n/f CONSTELLATION INVESTMENTS, LLC

n/f 43 CONSTITUTION

Constitution Drive

n/f BRIGHT HORIZONS CHILDREN'S CENTER, INC.

NOTE: WETLAND BOUNDARIES ON THIS SHEET PROVIDED BY NHDOT FOR REFERENCE. AS NO WETLAND IMPACTS ARE PROPOSED IN THESE AREAS.

REVISED NOV. 3, 2016

50 0 50 100

SCALE IN FEET

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

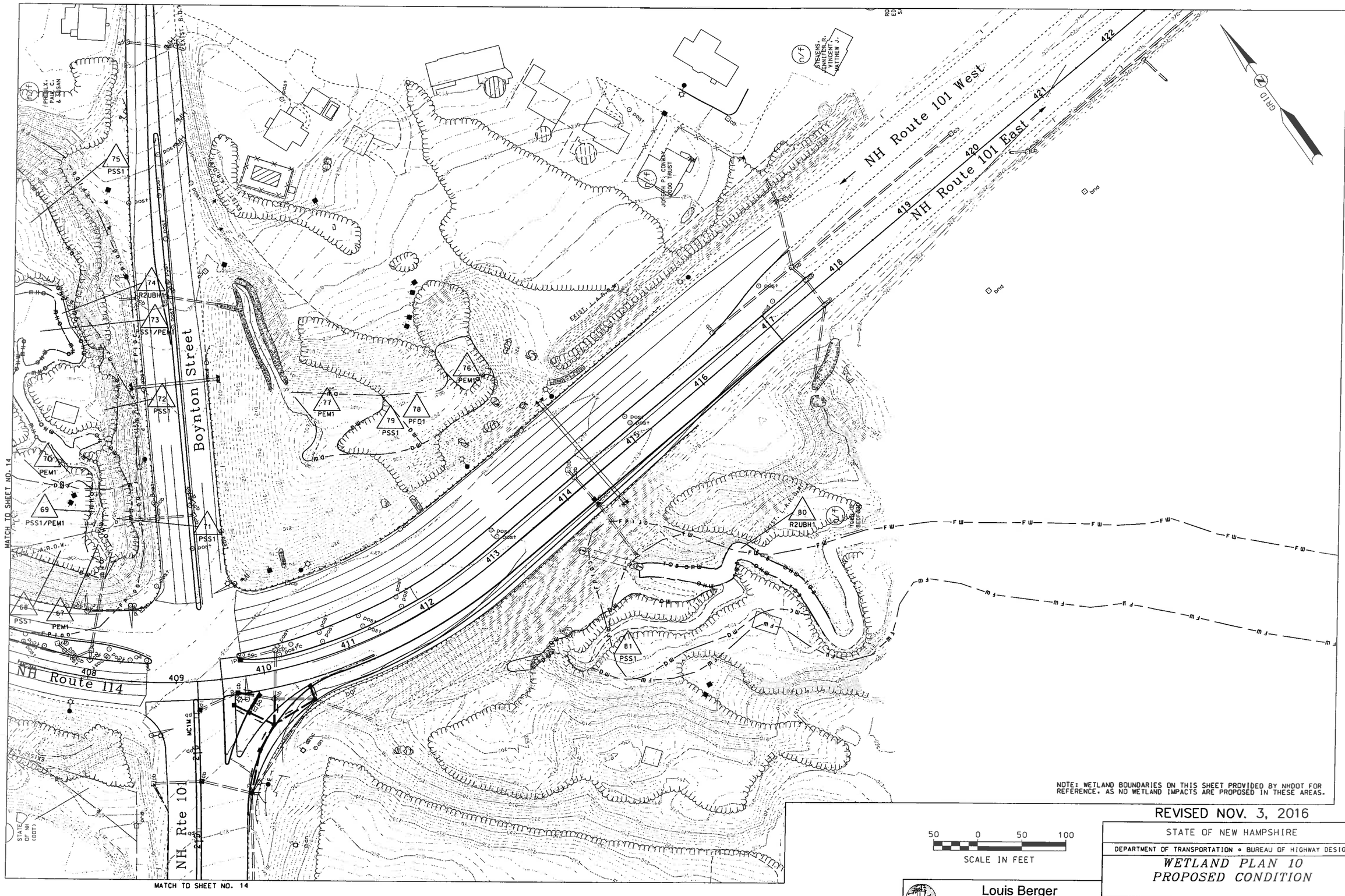
WETLAND PLAN 9
PROPOSED CONDITION

OGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 09	13953	14	25

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	NUMBER	DATE
STATION			

		DATE
SDR PROCCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE



REVISED NOV. 3, 2016

50 0 50 100
SCALE IN FEET

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND PLAN 10
PROPOSED CONDITION

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WETPLANS 10	13953	15	25

EROSION CONTROL PLAN LEGEND

- **PERIMETER CONTROL**
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOX
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- **NATURAL BUFFER/PERIMETER CONTROL**
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOX
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- **CHANNEL PROTECTION**
  - STONE CHECK DAMS
  - STRAW WATTLES
  - CHANNEL MATTING
  - CLASS D EROSION STONE
  - CLASS C STONE
- **CLEAN WATER BYPASS**
  - PUMP THROUGH PIPE
  - DRAIN THROUGH PIPE OR CHANNEL

Briar Road

Wallace Road

NH Route 101

Bedford Center Road

FORD, HENRY C. & DOROTHY J.

THE DAVID & KATHLEEN PETERSON IRREVOCABLE TRUST

ELVA M. NELSON REVOCABLE TRUST

KATHERINE M. MCLAUGHLIN IRREVOCABLE TRUST OF 2006

209 ROUTE 101 REALTY LLC

STATE OF NH - DOT

MCLAUGHLIN, MATTHEW F. & DEBRA K.

90 WEST RIVER ROAD, LLC

IACIOFANO, JOSEPH P.

WILLIAM H. CURRY REVOCABLE TRUST FAHLENWIDER-SUSAN C. CURRY- THOMAS

CHALANT TOO, INC

FUXMAN, LLC

136 BEDFORD CENTER ROAD CONDOMINIUM

DRAIN/SLOPE EASEMENT

SLOPE EASEMENT

LIMIT OF WORK (TYP.)

CAROW - SEE NOTE 4

EXIST. C.A.R.O.W.

0 POINTS OF ACCESS GRANTED

MATCH TO SHEET NO. 17

REVISED NOV. 3, 2016

SCALE IN FEET: 50 0 50 100

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

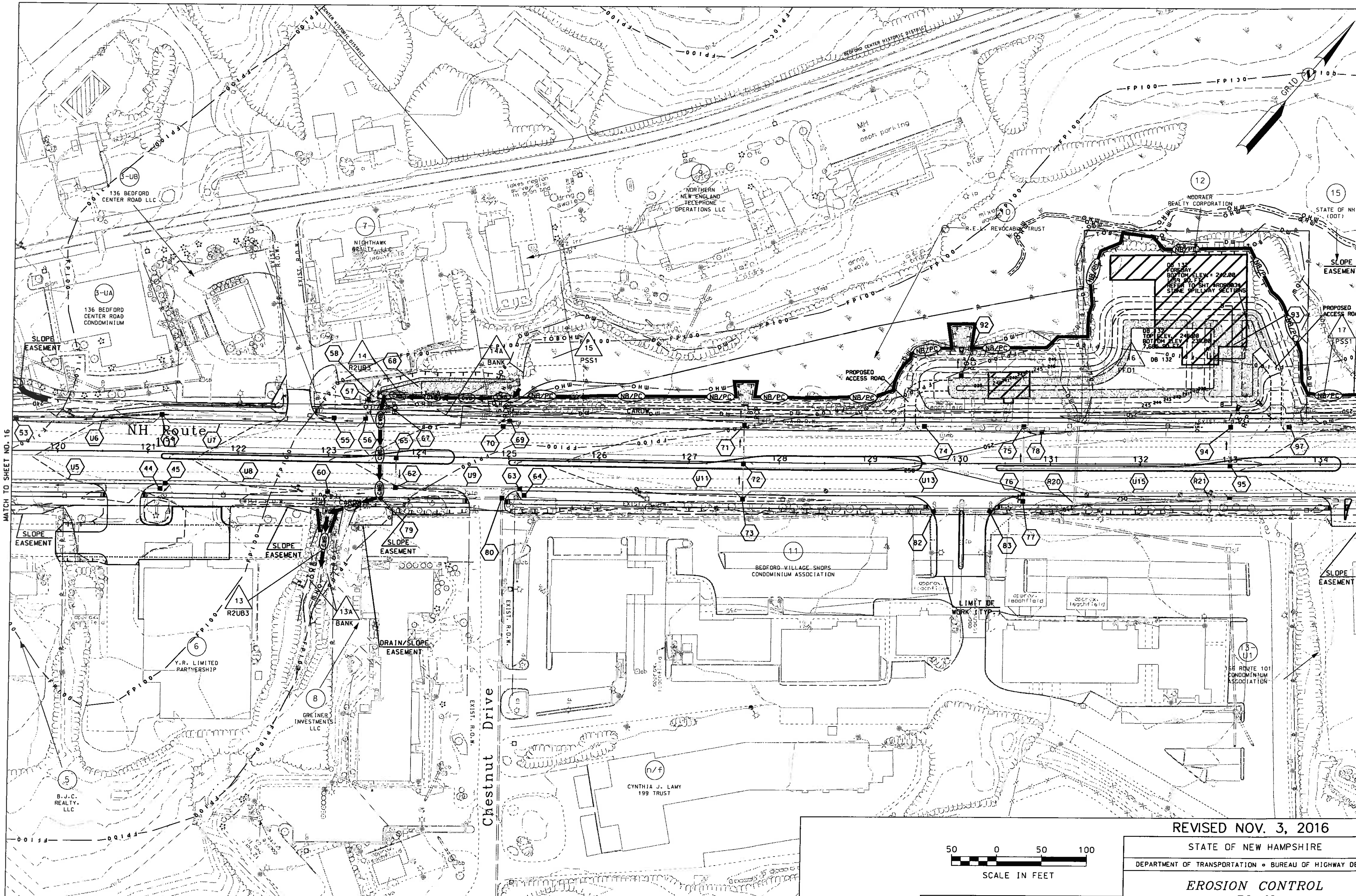
EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 01	13953	16	25

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

	DATE
SDR PROCESSED	
NEW DESIGN	ERW DATE 08/23/16
SHEET CHECKED	LSF DATE 08/23/16
AS BUILT DETAILS	DATE



REVISED NOV. 3, 2016

50 0 50 100
SCALE IN FEET

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

Louis Berger
Manchester, New Hampshire
(603) 644 5200

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 02	13953	17	25

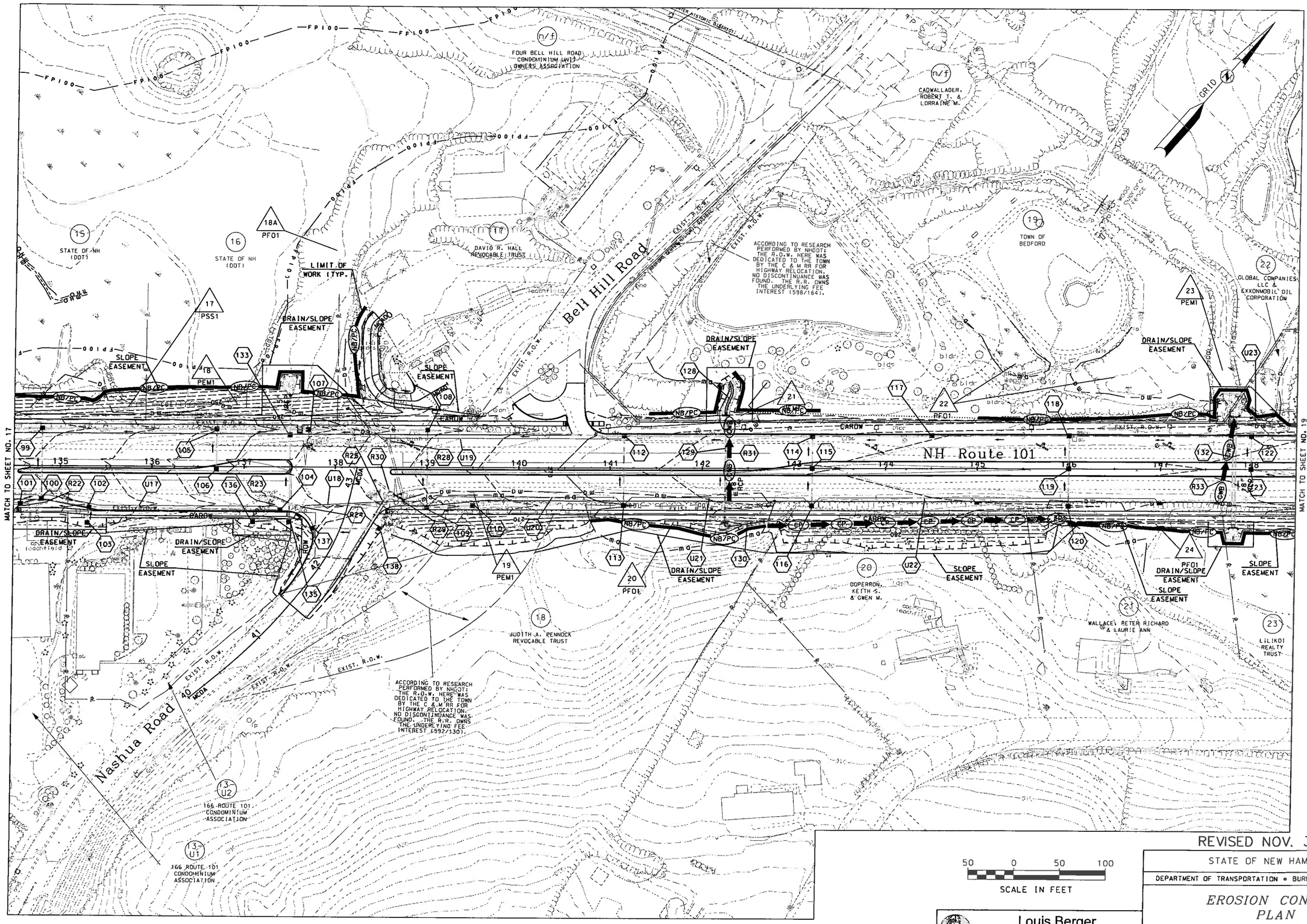
REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	STATION	NUMBER	DATE

	DATE
SDR PROCCESSED	
NEW DESIGN ERW	DATE 08/23/16
SHEET CHECKED LSF	DATE 08/23/16
AS BUILT DETAILS	DATE



50 0 50 100

SCALE IN FEET

REVISED NOV. 3, 2016

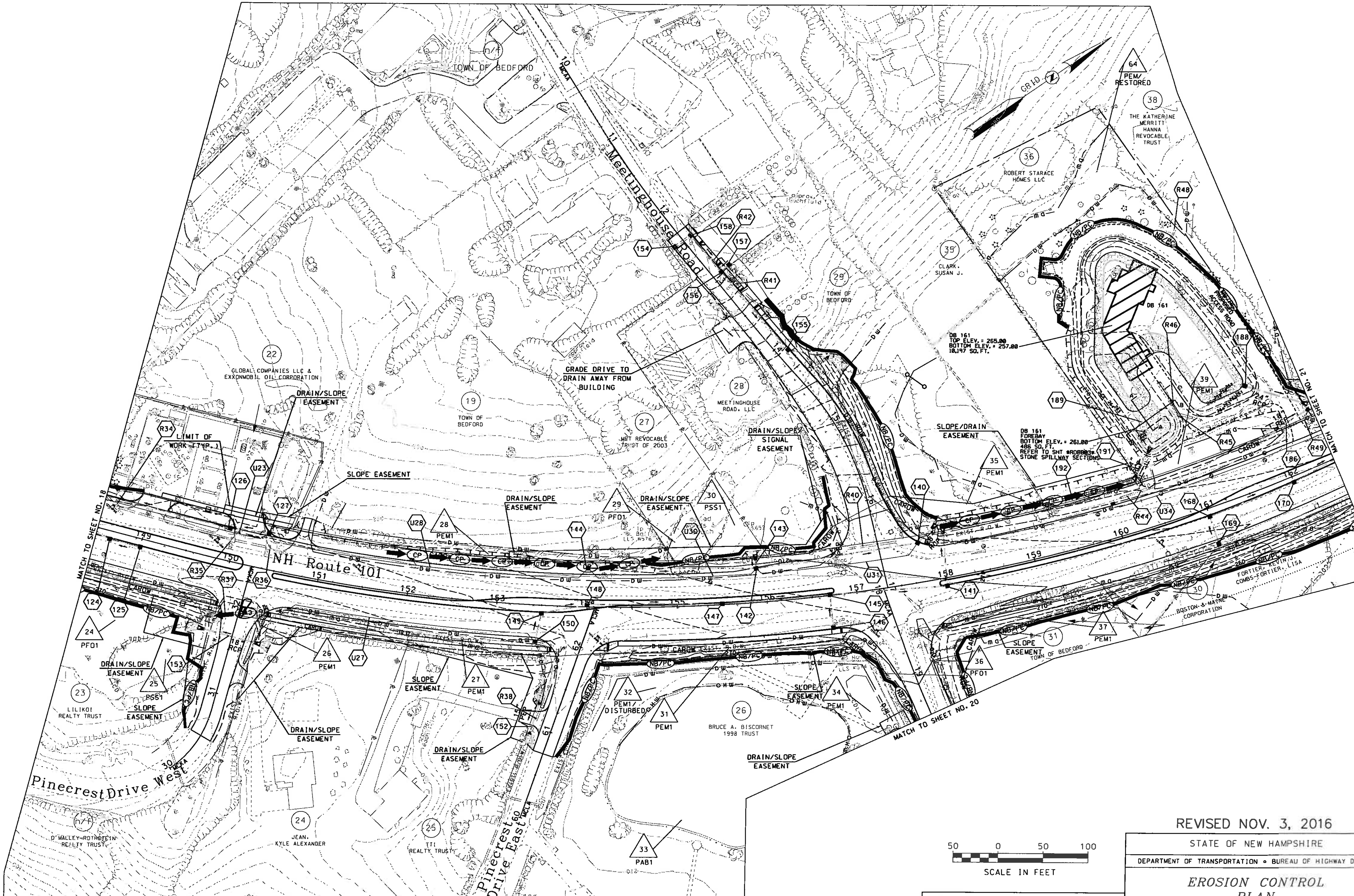
Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 03	13953	18	25



NH Route 101
Meetinghouse Road
Pinecrest Drive West
Pinecrest Drive East
MATCH TO SHEET NO. 18
MATCH TO SHEET NO. 20
MATCH TO SHEET NO. 21
GRID N
TOWN OF BEDFORD
GLOBAL COMPANIES LLC & EXXONMOBIL OIL CORPORATION
MET REVOCABLE TRUST OF 2003
MEETINGHOUSE ROAD, LLC
ROBERT STARACE HOMES LLC
THE KATHERINE MERRITT HANNA REVOCABLE TRUST
CLARK, SUSAN J.
BOSTON & MAINE CORPORATION
FORTIER, KEVIN J. COMBS-FORTIER, LISA
LILIKOI REALTY TRUST
JEAN, KYLE ALEXANDER
TTI REALTY TRUST
O'MALLEY-ROTHSTEIN REALTY TRUST
BRUCE A. BISCORNET 1998 TRUST
GRADE DRIVE TO DRAIN AWAY FROM BUILDING
LIMIT OF WORK (TYP.)
SLOPE EASEMENT
DRAIN/SLOPE EASEMENT
DRAIN/SLOPE/SIGNAL EASEMENT
SLOPE/DRAIN EASEMENT
DB 161 TOP ELEV. = 265.00 BOTTOM ELEV. = 257.00 18,197 SQ. FT.
DB 161 FOREBAY BOTTOM ELEV. = 261.00 486 SQ. FT. REFER TO SHT STONE SPILLWAY SECTIONS
PEM/RESTORED
PEM1
PFO1
PSS1
PAB1
PEM1/DISTURBED

REVISED NOV. 3, 2016

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 04	13953	19	25

Louis Berger
Manchester, New Hampshire
(603) 644 5200

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

REVISED NOV. 3, 2016

50 0 50 100
SCALE IN FEET

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE

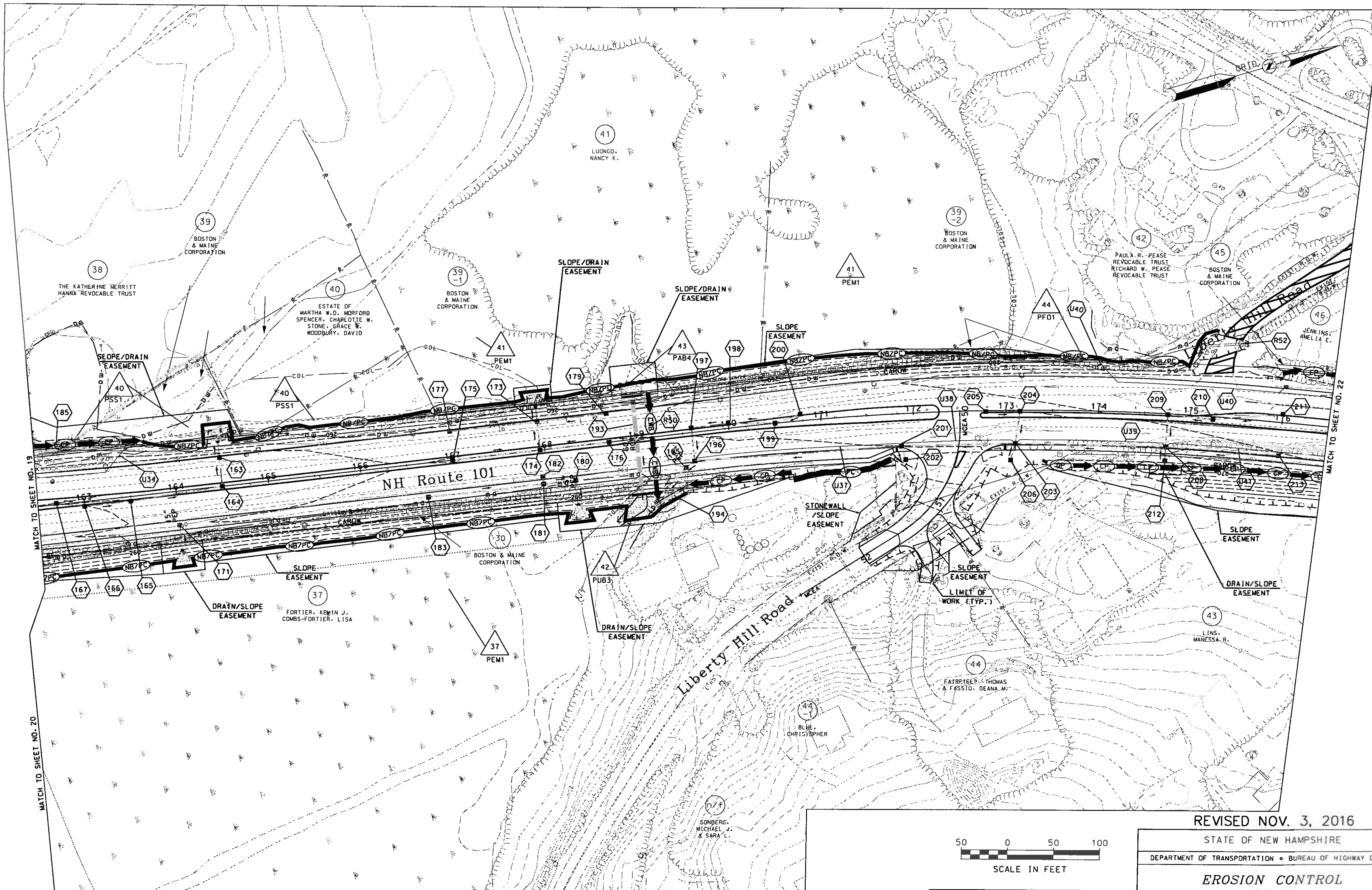
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 05	13953	20	25

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED — DATE
NEW DESIGN ERW — DATE 08/23/16
SHEET CHECKED LSF — DATE 08/23/16
AS BUILT DETAILS — DATE



REVISED NOV. 3, 2016

50 0 50 100
SCALE IN FEET

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

Louis Berger
Manchester, New Hampshire
(603) 644 5200

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 06	13953	21	25

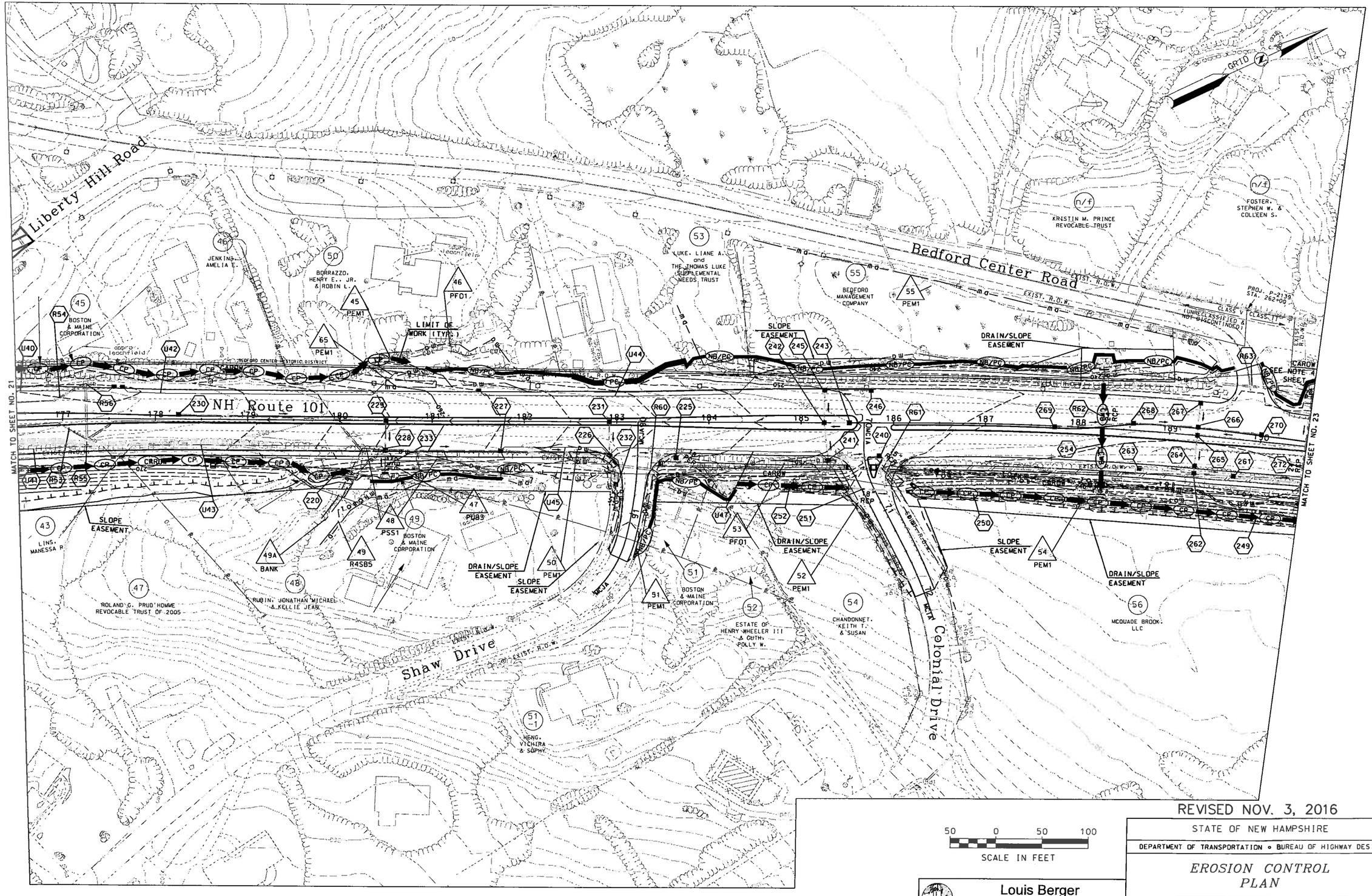
REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	NUMBER	DATE

		DATE
SDR PROCESSED		
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE



REVISED NOV. 3, 2016

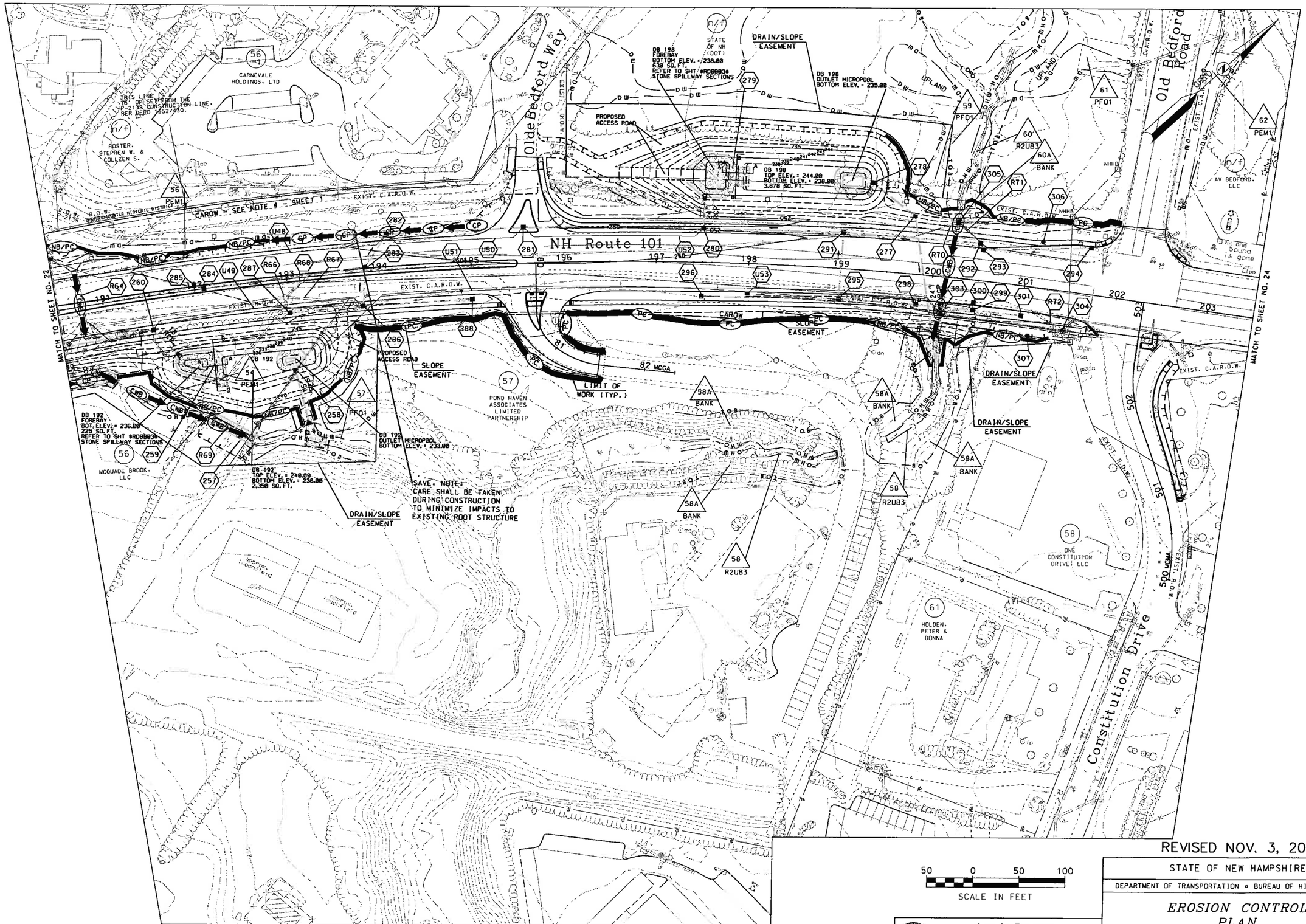
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 07	13953	22	25

Louis Berger
Manchester, New Hampshire
(603) 644 5200



REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

		DATE
SDR PROCCESSED		
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

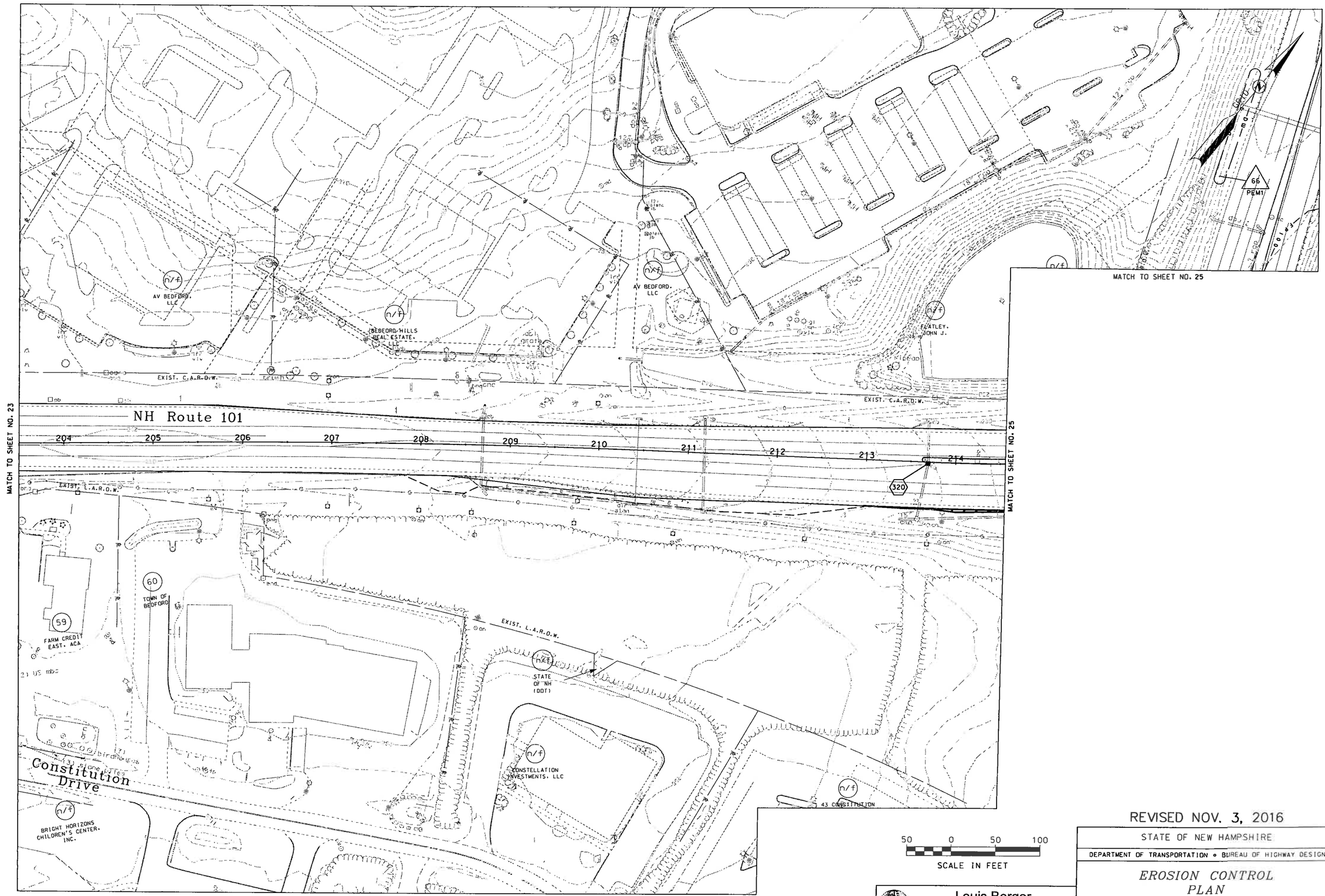
EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 08	13953	23	25

REVISIONS AFTER PROPOSAL

STATION	STATION	DESCRIPTION	NUMBER	DATE

		DATE
SDR PROCESSED		DATE
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE



50 0 50 100

SCALE IN FEET

REVISED NOV. 3, 2016

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 09	13953	24	25

Louis Berger
Manchester, New Hampshire
(603) 644 5200

REVISIONS AFTER PROPOSAL

STATION	STATION	DESCRIPTION	NUMBER	DATE

		DATE
SDR PROCCESSED		
NEW DESIGN	ERW	DATE 08/23/16
SHEET CHECKED	LSF	DATE 08/23/16
AS BUILT DETAILS		DATE

Boynton Street

NH Route 101 West

NH Route 101 East

NH Route 114

NH Rte 101

EXIST. R.O.W.

EXIST. L.A.R.O.W.

PROULX, PAUL C. & SUSAN

JOSEPH P. CONWAY 2000 TRUST

STEVENS, JENNIFER R. VINCENT, MATTHEW J.

75 PSS1

74 R2UBH1

73 PSS1/PEM1

72 PSS1

70 PEM1

69 PSS1/PEM1

71 PSS1

68 PSS1

67 PEM1

76 PEM1C

77 PEM1

78 PFO1

79 PSS1

80 R2UBH1

81 PSS1

336 337 327 334 328 330 333 325 326 331 R73 329 322 324 321 323

MATCH TO SHEET NO. 24

MATCH TO SHEET NO. 24

REVISED NOV. 3, 2016

50 0 50 100

SCALE IN FEET

Louis Berger
Manchester, New Hampshire
(603) 644 5200

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Cont. 10	13953	25	25